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Therlinya, A New Genus of Spiders from Eastern Australia (Araneae: Amaurobioidea)

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ABSTRACT. *Therlinya*, a new genus of cribellate amaurobioid spiders from eastern Australia, readily distinguished by its arched, unpatterned carapace, is described. It includes eleven new species: *Therlinya kiah, T. foveolata, T. bellinger, T. horsemanae, T. wiangaree, T. ballata, T. vexillum, T. lambkinae, T. angusta, T. monteithi*, and *T. nasuta*. All are forest dwelling species that build small sheet webs in sheltered microhabitats. Distribution maps and comments on relationships and biology are given.

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Therlinya n.gen. is one of many sheet web building amaurobioid spider groups associated with forested coastal and highland regions in eastern Australia. In particular, it is related to several undescribed genera from eastern and southwestern Australia that are characterised by the presence of longitudinal stripes on the carapace (Gray & Smith, in prep.), a feature lacking in *Therlinya*. All are forest dwelling species that build small sheet webs with funnel retreats opening from crevices or shallow burrows on logs, soil banks or under rocks.

Therlinya and its relatives can be characterised as stiphidioid spiders placed in or near the family Stiphidiidae. *Stiphidion*, the type genus of the family has characters that seem to markedly distinguish it from other stiphidioids, notably the recurved PER, the relatively long PLS and the bulbous tegulum with its distal sperm duct loop directed anti-clockwise (clockwise in *Therlinya* and *Baiami*). The Stiphidiidae has been variously constituted within the Amaurobioidea. Lehtinen (1967) limited the Stiphidiinae (placed within his Amaurobiidae) to three Australian taxa: *Stiphidion* Simon (previously placed in the Psechridae and the Dictynidae), *Tjurunga* Lehtinen and *Baiami* Lehtinen. *Tjurunga* is based upon an odd Tasmanian species (*Rubrius paroculus* Simon, known only from the type female) which has the unusual cheliceral tooth pattern of 7+4 and a wide, distinctly cleft colulus. It may be related to another Tasmanian genus (Gray, in prep.) which has a similar colulus but a tooth pattern of 2+3. Forster & Wilton (1973) expanded their Stiphidiidae to include, besides *Stiphidion* and *Baiami*, *Corasoides* Butler, *Cambridgea* L. Koch, *Nanocambridgea* Forster & Wilton, *Procambridgea* Forster & Wilton and *Ischalea* L. Koch. Davies (1988) excluded the latter two genera from the Stiphidiidae in a review of *Stiphidion* and its relationships. *Cambridgea* and *Nanocambridgea* were recently reviewed by Blest & Vink (2000) as stiphidiid spiders but with no comments on relationships.

The presence of a grate-shaped tapetum in the posterior eyes of *Stiphidion* prompted Griswold (1993) to suggest that this genus belonged with the Lycosoidea. However, other characters (notably the presence of fused paracribellar spigots on the PMS) have supported its retention within the Amaurobioidea (Griswold *et al.*, 1999; Davies & Lambkin, 2000), inferring that the grate-shaped tapetum has arisen independently in these two superfamilies. Like *Stiphidion, Therlinya* and its related "striped" group of genera have grate-shaped tapeta. Griswold *et al.* (1999) also noted the

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presence of this character in *Baiami* but the type of tapetum present in most other putative stiphidiids is not known. Nonetheless, this character is a potentially unifying feature for "stiphidioid" spiders.

Stiphidioid spiders such as *Stiphidion, Therlinya* and *Taurongia* Hogg are characterised by the presence of indirect eyes with grate-shaped tapeta (tapetum type unknown in *Taurongia*); large size of AME; chilum median, entire; 2+3 cheliceral teeth; feathery hairs; spiniform embolus; a membraneous T-shaped conductor; two RTAs; MA present or absent; cymbial flange and trichobothria; epigynum typically with paired lateral fossae; no epigynal teeth; cribellum divided, ALS with two MAP; PMS with grouped paracribellar spigots; PLS slender, longest, with 1–3 paracribellar spigots; calamistrum proximal to central; typically run inverted under the sheet web.

Several of these characters are shared with some of Forster & Wilton's Agelenidae, notably the male palpal morphology (cf. *Orepukia, Mahura*) and, in some ecribellate taxa, the cleft colulus (cf. Orepukia). These authors noted that a firm separation between their Stiphidiidae and Agelenidae is difficult (Forster & Wilton, 1973).

The cladogram of Griswold *et al.* (1999), shows a weak stiphidioid clade (*Stiphidion* and *Baiami* with *Neolana* Forster & Wilton) supported by a single, dubious synapomorphy ("web posture erect"). They score the first two genera as "inverted" (correct for *Baiami*) while *Neolana* is scored as "erect". The web of *Neolana* (Forster & Wilton, 1973: 273) shows at least a superficial resemblance to that of *Stiphidion*, including that spider's habit of sitting on the substrate above the web. But how these spiders actually move on the web is not clear. The web position of *Stiphidion* is ambiguous because, except during egg sac construction, it is rarely seen on the web. These spiders sit on rock or wood substrates, sheltered within the short, central columnar attachments of their umbrella shaped webs. They catch most

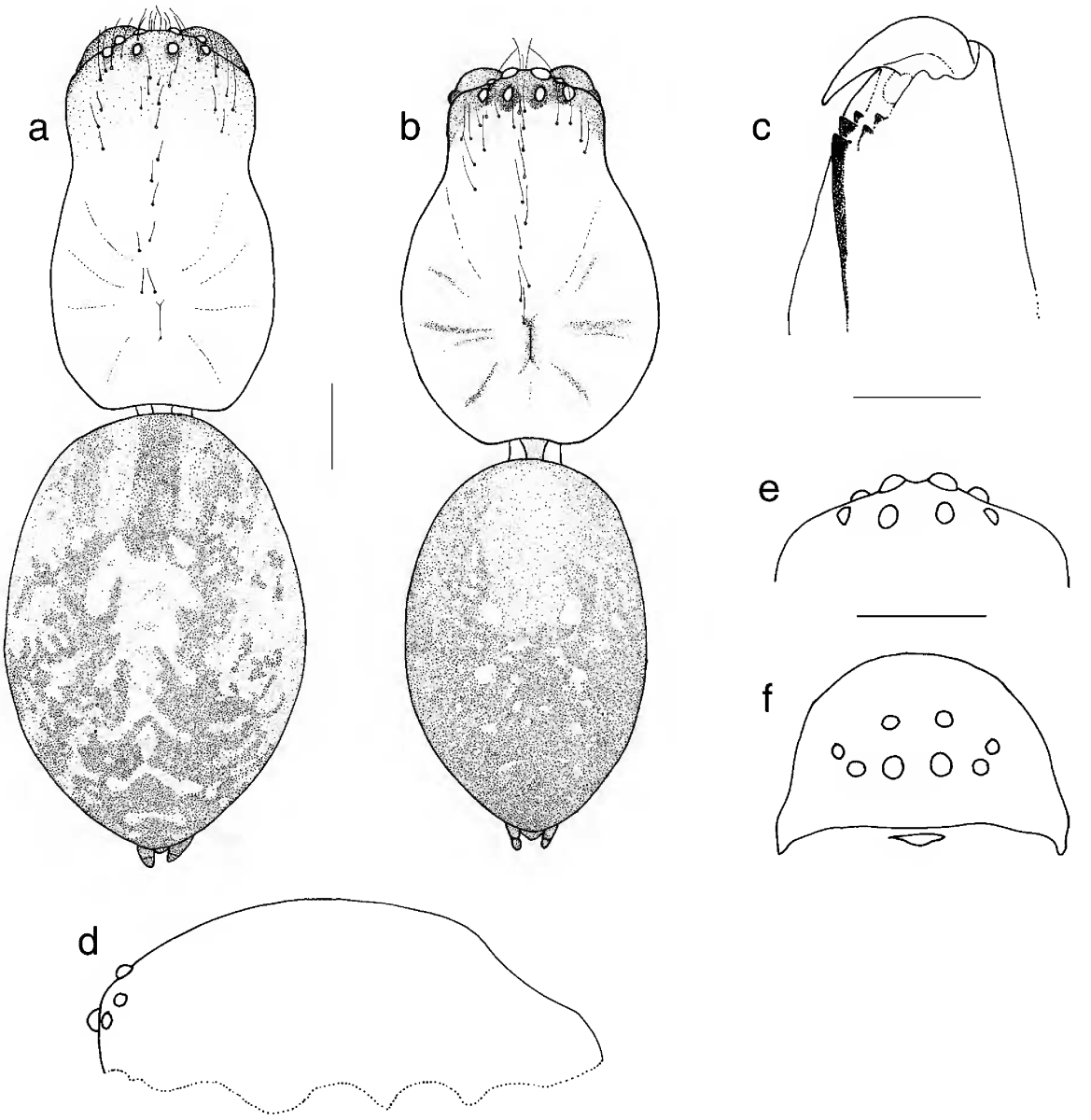

Figure 1. a,b, body, dorsal: a, *Therlinya kiah*, female; b, *T. lambkinae*, male. c–f, *T. kiah*, female: c, cheliceral teeth; d, carapace, lateral; e,f, eyes, e, dorsal; f, frontal (with chilum). Scale lines: a,b and d–f, 1.0 mm; c, 0.5 mm.

of their prey on the substrate under or at the guyed outer edges of the "umbrella". While it is likely that *Stiphidion* and *Neolana* both had simple sheet web building ancestors, we cannot infer their web posture, especially in the absence of a well supported plesiomorphic sister group (cf. *Tartarus* and *Baiami* (Gray, 1992)). Compared with *Stiphidion* and *Therlinya, Neolana* has a very distinctive palpal bulb structure, small AME, spinnerets of equal length, no feathery hairs and no flange or trichobothria on the cymbium. Its relationships remain speculative at present.

The absence of a grate-tapetum in *Corasoides* (M. Humphries, pers. comm.) suggests that this very distinctive genus is not a stiphidioid. As well, *Corasoides* spp run erect on top of the sheet web (contrary to Forster & Wilton, 1973), rather than inverted below it like other putative stiphidioids.

Taurongia Hogg and its undescribed relatives in eastern Australia and Tasmania (Gray, in prep), as well as *Baiami* and *Tartarus* Gray, generally fit within the stiphidioid definition given above. The absence of a divided conductor apex in *Therlinya* and its closest relatives (the "striped carapace" genera) contrasts with its presence in *Stiphidion, Taurongia* and *Baiami*, in all of which the embolus terminates on the outer branch. The appearance of the median apophysis is highly variable. It is absent in *Stiphidion* and *Baiami*, fleshy, sclerotised or reduced in *Therlinya* and its close relatives, a sclerotised spine or absent in the *Taurongia* group.

Baiami (Gray, 1981) seems closest to *Taurongia* but has some distinctive features which may indicate that it occupies a basal position with respect to the other genera. For example, the conductor lacks a tegular window (which is present but very small in *Taurongia* group genera) and forms a wide circular membrane attached basally to the tegulum; the epigynal fossa is not or only weakly divided; and the PMS lack the level of fusion of the paracribellar spigots currently seen in most stiphidioids. Typically, the PMS paracribellar spigots are either all fused, as in *Stiphidion* and *Therlinya* (Fig. 3c), or mostly fused, as in *Taurongia* group genera, where the fused spigots are usually accompanied by one or more single (free) spigots. However, in *Baiami brockmani* the PMS paracribellar spigots are either all free, or fusion is restricted to the odd pair of paracribellar spigots (Fig. 3f).

The conical, apical PLS segment is longest in *Stiphidion* and its spigots are also more elongate than in *Therlinya*. A PLS modified spigot and 3 free associated paracribellar spigots are present in both genera. In *Baiami brockmani* there are also 3 paracribellar spigots, but two have their bases fused together, while the other has its base fused with the modified PLS spigot base. In other putative stiphidiid genera examined, either 2 or 3 free paracribellar spigots were present, except in *Taurongia* where only one could be found.

Material and methods

Specimen examinations, measurements and drawings were made using a Wild M5 microscope with graticule and drawing attachment. Epigynal preparations were cleared in 8% potassium hydroxide before mounting in glycerol for microscopic examination. Specimen preparations for scanning electron microscopy were air dried from 100% acetone.

Abbreviations and definitions. "Tegular window" refers to the gap between the proximal embolus and the lower edge of the conductor stem. BL, body length; CL, carapace length; CW carapace width; CapW, caput width; EGW, eye group width; AME, anterior median eyes; ALE, anterior lateral eyes; PME, posterior median eyes; PLE, posterior lateral eyes; MOQ, median ocular quadrangle; AER, anterior eye row; PER, posterior eye row; LL, labium length; LW, labium width; SL, sternum length; SW, sternum width; RTA, retrolateral tibial apophysis; RVTA, retrolateral ventral tibial apophysis; ALS, anterior lateral spinnerets; PMS, posterior median spinnerets; PLS, posterior lateral spinnerets.

Repository institutions. Specimens listed under accession numbers prefixed KS are deposited in the Australian Museum, Sydney (AMS). All other specimens are lodged in the Queensland Museum (QM).

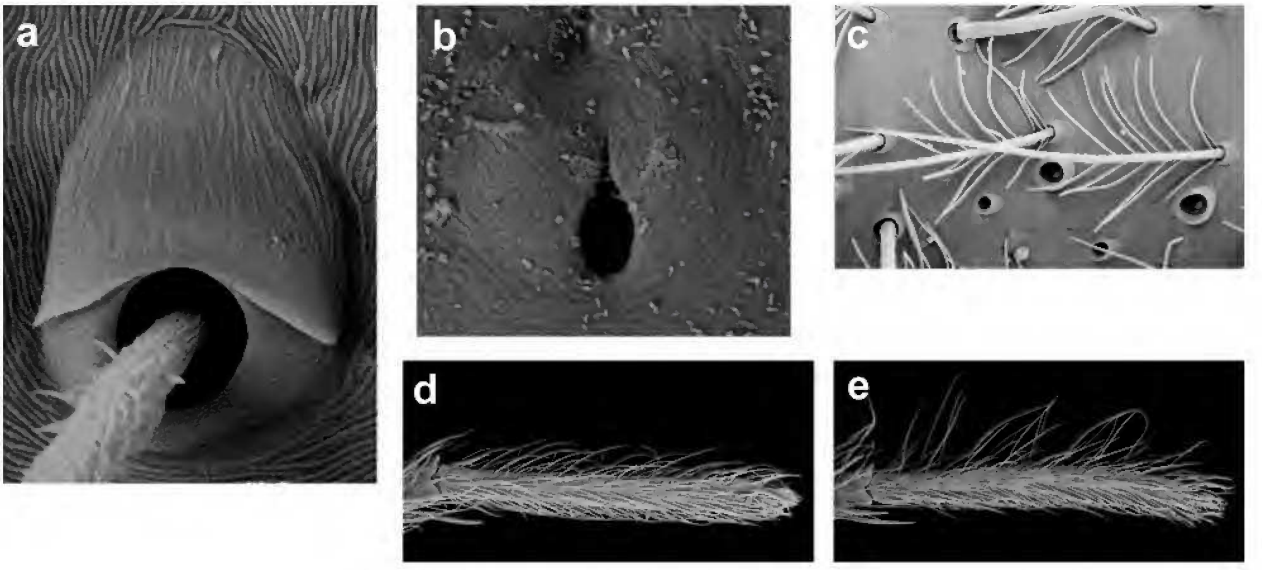

Figure 2. a–e, sensilla, *Therlinya kiah*: a, trichobothrium, female leg I; b, tarsal organ, male leg II; c, feathery hairs on leg; d, e, hairs on tarsus, lateral; d, female, leg I; e, male, leg II.

Therlinya n.gen.

Type species. *Therlinya kiah* n.sp.

Etymology. The generic name is an Aboriginal word meaning "tongue". It refers to the shape of the epigynal scape present in most species. The gender is female.

Diagnosis. *Therlinya* is readily distinguished by its arched, unpatterned carapace. It differs from *Stiphidion* by the PER being procurved to straight; from *Taurongia* and *Baiami* by the possession of a prominent, fleshy median apophysis; from *Tartarus* by its possession of eyes.

Description. Medium-sized cribellate spiders (CL 2.9–4.8) which build suspended, semi-horizontal sheet webs with shallow retreat tunnel; spiders run underneath sheet. Colour (in alcohol). Cephalothorax cuticle amber coloured, deepest on caput, mouthparts and sternum. Colour pattern (Fig. 1a,b): carapace pallid grey-brown, without obvious patterning; dorsal abdomen with anterior grey/brown stripe (may be indistinct) in paler patch, followed by small cream coloured chevrons (or dots in northern species), reducing in size posteriorly; background colour grey/brown, often lightest anterolaterally & darkest on posterior abdomen; underside dark laterally, then two longitudinal pale cream stripes (sometimes rows of spots) enclosing buff-grey area with two additional often indistinct pale stripes nearer midline; leg femora and tibiae with grey pigment bands, sometimes indistinct to absent in north Queensland species. Feathery, semi-recumbent hairs abundant on abdomen, carapace and legs (Fig. 2c), plus long & short plumose hairs. Long, curved plumose hairs common on leg metatarsi I, II, but absent on tarsi except male tarsus II (Fig. 2e). Carapace (Fig. 1a,b,d) with prominent, broad caput, wider in female, strongly arched, highest at mid-caput (Fig. 1d). Fovea a long slit curving almost halfway down rear slope of carapace. Clypeus 3 × width of an AME. Chilum an undivided, median plate (Fig. 1f). Eyes: Fig. 1e,f. Eight small, in two rows, facing forward. EGW less than two-thirds (0.6–0.64×) width of caput. From above AER recurved, PER weakly procurved to straight. AME≥ALE>PME>PLE or AME>PME=ALE>PLE; AME relatively larger in male. MOQ almost square, slightly narrower anteriorly. Posterior eyes with grate-shaped tapetum. Chelicerae vertical and moderately robust, with boss, fangs with serrate retroventral margins; retromargin with one long, modified seta near base of each fang, numerous modified setae along promargin. Cheliceral tooth pattern—retromargin 2; promargin 3, base of last promarginal tooth extended as a strong carina (Fig. 1c). Maxillae longer than wide, lateral margins weakly undulate to straight, strong linear serrula present. Labium longer than wide or subequal, apically truncate, laterobasally excavated. Sternum longer than wide, shortly pointed between coxae IV. Legs typically 1423 or 1243. Trochanters notched. Spines: Palpal tarsus spinose. Representative leg spination (*T. kiah*). Male (KS58184)—I: femur d1112, p0011; tibia d001, v222, p111, r111; metatarsus d2112, v221, p0101, r0101. II: femur d1202, p0111; tibia d001, v222, p111, r11; metatarsus d2102, v221, p0101, r0101. III: femur d1202, p0111; tibia d11, v212 (112), p11, r11; metatarsus d212, v221, p011, r011. IV: femur d1102, p0001; tibia d101, v112, p11, r11; metatarsus d222, v221, p011, r001. Female (KS58186)—I: femur d1202, p0011; tibia d0010, v220 (222), p111, r101; metatarsus d0202, v221, p1101, r101. II: femur d1102, p0011; tibia d0010, v220, p111 (101), r101; metatarsus d112, v221, p100, r101. III: femur d1102, p0011; tibia d01 (11), v111, p101, r01 (11); metatarsus d212, v221, p11, r11. IV: femur d1102, p0 (0001); tibia d11, v112, p11, r01 (11); metatarsus d222, v211, p011, r001. Three tarsal claws: superior 6–12 teeth, inferior 0–2 teeth. Palpal claw with 8–10 teeth. Claw tufts and scopulae absent; male ventral tarsi with numerous short, inclined hairs. Trichobothria increasing in length distally, in single row on tarsi (6–8) and metatarsi (6–7); two rows on tibia; present on palpal tarsus and tibia. Bothria collariform, proximal plate longitudinally ridged (Fig. 2a). Tarsal organ capsulate, finely ridged longitudinally, with ovoid "keyhole" shaped pore (Fig. 2b); placed distal to trichobothria. Male palp: Figs. 4a,b, 11a,b. Trichobothria present on tibia and cymbium. Tibia rather short, with strong prolateral bristles and two retrolateral apophyses: a central-dorsad RTA and a ventrad and apical RVTA, broad-based with a blunt, beak-like apex directed ventrally. Cymbium wide basally with a prominent retrolateral flange and a moderately short, coniform apex. Tegulum with a retrolateral or basal tegular lobe, partially enclosing the S-shaped part of sperm duct; distal loop of sperm duct running anti-clockwise. Embolus origin retrolateral to basal, curving around conductor margin as a long, robust, tapering spine, flattened distally. Conductor large, membraneous, asymmetric T-shape, posterior limb of "T" very short, anterior limb much longer and apically undivided; conductor margin reflected to form a groove for embolus. Tegular window present, placed retrobasally to prolaterally. Median apophysis lobular, a blunt, fleshy process placed centrally above base of conductor. Epigynum typically with a sclerotised, tongue-shaped scape (Figs. 4c–g) enclosing a pair of lateral fossae; sometimes scape reduced (Fig. 16a) or absent (Figs. 5c,d, 7c). Lateral teeth and lobes absent. Internal genitalia (Fig. 4h) simple, with anterolateral copulatory openings leading into broad, proximally flattened copulatory ducts (exceptionally short in *T. bellinger*) curving back to a pair of round-ovoid, glandulate spermathecae (Fig. 13e) placed anterior or lateral to epigynal fossae. Tracheal system simple, with four unbranched tracheal tubes confined to the abdomen. Spiracle just anterior to & half as wide as, cribellum. Calamistrum almost half length of metatarsus, subproximal-central, delimited at each end by a retrodorsal spine; absent in male. Spinning organs: Fig. 3a–e (female). Cribellum bipartite with two ovoid spinning fields, each about three times as wide as long and well separated by one third of a field width; posterior cribellar margin convex and strongly sclerotised; male cribellum almost as wide as in female with small, non-functional fields. Spinnerets relatively short. ALS and PLS 2-segmented, latter slightly longer; PMS 1-segmented, short; ALS broad with very short apical segment with moderately broad margins; PLS slender with moderately long, conical, apical segment. ALS spigots: 2 major ampullate spigots on mesal side, anterior largest; c. 80 piriform spigots. PMS spigots: two grouped paracribellar bases ectally, each with 7–8 spigots; 1 minor ampullate spigot anteriorly (adjacent to anterior paracribellar base); 1 posterior cylindrical spigot (adjacent to posterior paracribellar base); 8–9 aciniform spigots. PLS spigots: 1 apical "modified PLS spigot" flanked by 3 free paracribellar spigots; 2 cylindrical spigots on mesal side; c. 30 aciniform spigots.

Figure 3. a–e, spinnerets, *Therlinya kiah* (KS3659, ♀): a, spinning field; b, ALS; c, PMS; d, PLS; e, detail of PLS apex with modified PLS spigot. f, PMS, *Baiami brockmani* (♀), arrows to a single and a double Pc spigot base. Spigots: MAP, major ampullate; mAP; minor ampullate; Cyl, cylindrical; mPLS, modified posterior lateral spinneret; Pc, paracribellar

Included species. *Therlinya kiah, T. foveolata, T. bellinger, T. horsemanae, T. wiangaree, T. ballata, T. vexillum, T. lambkinae, T. angusta, T. monteithi, T. nasuta*.

Distribution. Eastern Australia.

Biology. These cribellate web builders are associated with open and closed moist forest habitats of the eastern highlands and coast. They run on the underside of semi-horizontal sheet webs up to 30 cm wide, suspended from funnels leading into burrows 4–10 cm deep in soil banks or

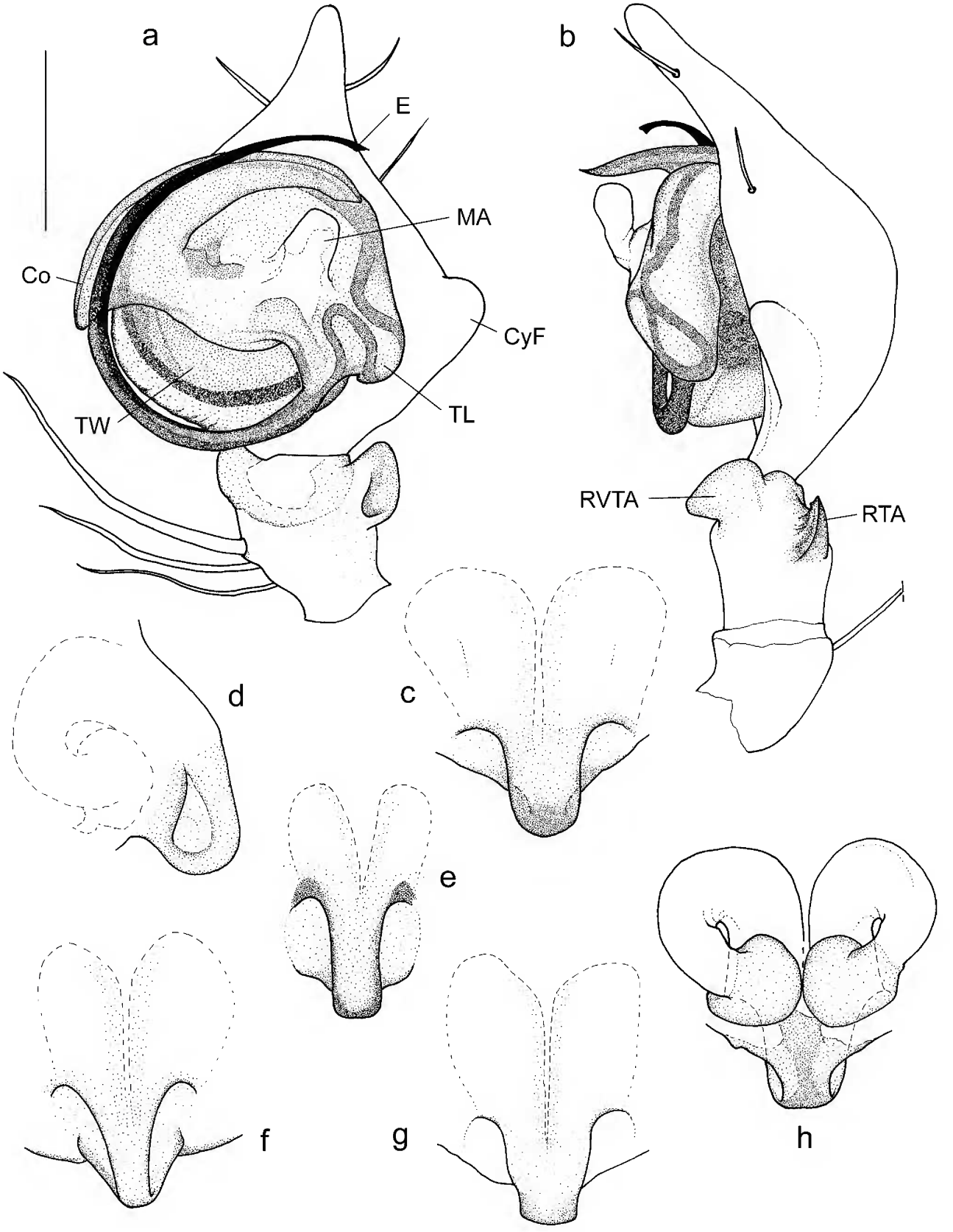

Figure 4. *Therlinya kiah*. a,b, male palp (holotype): a, ventral, b; retrolateral, (embolus free of conductor). c–h, epigynum: c, e–g, ventral; d, lateral; h, dorsal—internal genitalia. Scale line 0.5 mm. (c,d,h, KS58185; e, KS58186; f, KS58194; g KS58202). Co, conductor; CyF, cymbial flange; E, embolus; MA, median apophysis; TL, tegular lobe; TW, tegular window; RTA, retrolateral tibial apophysis; RVTA, retrolateral ventral tibial apophysis.

logs. The egg sacs are rounded, suspended from the basal burrow roof. A captive female *T. kiah* (KS58191), sealed within a silk chamber from approximately 1 April to 10 June 1978, produced an egg sac and 224 spiderlings.

Remarks. *Therlinya wiangaree, T. ballata* and *T. vexillum* from the Border Ranges region of New South Wales and Queensland form a related group, their T-shaped conductors having very long anterior limbs which also show a trend for increasing distal reflexion.

Cymbium width can vary within species, notably in *T. kiah* and *T. lambkinae*. The epigynal scape varies considerably in shape and size between species. Despite some intraspecific variation (e.g., *T. kiah*: Fig. 4c,e–g) it remains a useful structure for species separation. The epigynal scape is absent in two species. *Therlinya foveolata* has a pit-like, cordate epigynal fossa (Fig. 5c,d) which may be a plesiomorphic state. In *T. bellinger* the scape appears to be reduced and fused into the central epigynal area (Fig. 7c), a highly derived state.

Key to *Therlinya* species

Males

1 Tegular lobe placed basally (Fig. 5a) 2
—— Tegular lobe placed retrolaterally (Fig. 4a) 3

2 RTA placed centrad (Fig. 5b) ..... *T. foveolata*
—— RTA placed dorsad (Fig. 7b) ..... *T. bellinger*

3 RVTA relatively slender. Anterior limb of T-conductor long, more or less reflexed apically; tegular window placed retrobasally (Fig. 10a) 4
—— RVTA relatively thick. Anterior limb of T-conductor shorter, not reflexed apically; tegular window placed probasally to prolaterally (Fig. 4a) 5

4 Conductor only slightly reflexed at tip; retrolateral distal lamina absent (Fig. 9a,b) ..... *T. wiangaree*
—— End of conductor clearly reflexed; retrolateral distal lamina present (Fig. 10a) 6

5 In ventral view RTA completely or largely hidden by RVTA (Figs. 4a) 7
—— In ventral view RTA not hidden by RVTA (Fig. 15a) 8

6 Distal conductor moderately reflexed (Fig. 10a) ..... *T. ballata*
—— Distal conductor strongly reflexed (Fig. 11a) ..... *T. vexillum*

7 Apex of RTA directed retrodorsally (Fig. 14a) ..... *T. angusta*
—— Apex of RTA directed anteriorly (Fig. 4a) 9

8 RTA small (Fig. 8a) ..... *T. horsemanae*
—— RTA large (Fig. 15a) ..... *T. monteithi*

9 Tegular lobe relatively narrow. Beak-like apex of RVTA placed anteriorly (Fig. 13a) ..... *T. lambkinae*
—— Tegular lobe relatively broad. Beak-like apex of RVTA placed posteriorly (Fig. 4a) ..... *T. kiah*

Females

1 Epigynum without scape 2
—— Epigynum with scape 3

2 Epigynum with an open, pit-like fossa (Fig. 5d) ..... *T. foveolata*
—— Epigynum without a fossa; copulatory openings flank a median tuft of setae (Fig. 7c) ..... *T. bellinger*

3 Scape small, apex curved ventrally and knob-like (Figs. 16a,b) ..... *T. nasuta*
—— Scape not as above 4

4 Epigynal scape wide and short, ending at or slightly beyond epigastric furrow 5

—— Epigynal scape longer, ending well beyond epigastric furrow 6

5 Epigynal scape very wide, truncate behind, ending at epigastric furrow (Fig. 8c) ..... *T. horsemanae*

—— Epigynal scape wide, rounded behind, ending just beyond epigastric furrow (Fig. 15c) ..... *T. monteithi*

6 Scape apex relatively wide, truncate or knob-like 7

—— Scape apex relatively narrower, truncate or rounded 8

7 Scape narrowed at middle, distally knob-like (Fig. 9c,e) ..... *T. wiangaree*

—— Scape not as above 9

8 Total width across lateral epigynal fossae less than twice scape width (Fig. 10c) ..... *T. ballata*

—— Total width across lateral epigynal fossae more than twice scape width 10

9 Scape longer than wide (Fig. 11c) ..... *T. vexillum*

—— Scape as long as wide (Fig. 13c) ..... *T. lambkinae*

10 Dorsal part of scape broadened for half or more of scape length (Fig. 4c,e–g) ..... *T. kiah*

—— Dorsal part of scape broadened basally only (Fig. 14c) ..... *T. angusta*

Therlinya kiah n.sp.

Figs. 1a,c–f, 4a–h, 6

Type material. AUSTRALIA: NEW SOUTH WALES—HOLOTYPE: ♂, KS58184 (AMS), 1.5 km W of Kiah, on Towamba road, 37°09'S 149°50'E, 15 Apr. 1978, M.R. Gray, sheet webs in mossy bank along road, matured 26 Nov. 1978. PARATYPES: ♀, KS58185, data as for holotype; ♀, KS58186, data as for holotype; (both mature at collection); ♂, KS34820, 4 mi. S of Rydal on Hampton Road, 33°32'S 150°03'E, 28 Nov. 1974, M.R. Gray; ♀, KS34819, 4 km S of Rydal at Sodwalls-Sydney turn-off, 33°32'S 150°03'E, 28 Nov. 1974, M.R. Gray, in small sheets with tube retreat in tussock grass on bank; ♂, ♀, KS75373, Mt Kaputar NP, 1.9 km W of Bark Hut Campsite, 30°16'50"S 150°07'55"E, 13 Nov. 2001, M. Gray, G. Milledge & H. Smith, sheet webs in grassy earth bank; ♂, KS63025 (to QM), Mount Kembla, Sydney Catchment Authority Reserve, 34°26'33"S 150°44'24"E, 11–15 Dec. 1998, L. Gibson, pitfall traps; ♂ KS70037, Mount Kembla, Sydney Catchment Authority Reserve, 34°26'33"S 150°44'24"E, 6–10 Jun. 1999, L. Gibson, pitfall traps; ♀, KS34822, Blue Mountains NP, 18 km E Woodford, 33°44'S 150°29'E, 17 Apr. 1974, M.R. Gray, vertical sheet web to ground burrow; ♀, KS58188, Brown Mountain, 14 km W of Bemboka, 36°37'S 149°25'E, 16 Apr. 1978, M.R. Gray, large sheet web in bank. AUSTRALIA: VICTORIA—♂, KS69651, ♀, KS58190, Kinglake NP, on SE slopes of Mt Slide, 4 km from SE entrance turn-off, 37°35'S 145°20'E, 29 Mar. 1978, M.R. Gray, in medium sized sheet webs; ♀, KS58192, Fairy Dell Forest Recreation Area, 6 km NW Wiseleigh, 37°41'S 147°47'E, 12 Apr. 1978, M.R. Gray, sheet web 15 cm out from double retreat; ♀, KS58193, between Glen Wills and Sunnyside, 52 km N of Omeo, 36°51'S 147°31'E, 13 Apr. 1974, M.R. Gray, 30 × 25 cm sheet web horizontally out from bank, 8 cm deep retreat.

Other material. AUSTRALIA: NEW SOUTH WALES—5♀♀, KS58187, data as for holotype; ♂, KS34824, Mount Werong near Oberon, 34°05'S 149°56'E, 3 Jul. 1972, G.S. Hunt, under logs; ♂, ♀, KS34829, ♀, KS58194, 8 km E of Bungendore on Braidwood Road, 31°15"S 149°27'E, 11 Dec. 1977, M.R. Gray, dry open sclerophyll, webs among grass on eroded creek banks 5–10 cm burrow; ♂, KS55757, Wiola Creek fire trail, Badja SF, 36°05'56"S 149°35'09"E, 13 Mar. 1999, J. Tarnawski & S. Lassau, CBCR003–025; ♀, KS58189, Bodalla SF, 8 km NNW Central Tilba, near Mt Dromedary turn-off, 36°16'S 150°03'E, 17 Apr. 1978, M.R. Gray, large sheet web suspended out from bank with strong entrance collar; ♂, KS63513, Beecroft Peninsula, northern headland of Jervis Bay, 35°03'03"S 150°47'21"E, 21–25 Aug. 1999, L. Gibson, pitfall traps; ♀, KS58202, Bellinger River SF, NW Thora, 30°25'03"S 152°45'30"E, 12 Nov. 1999, M.R. Gray & H.M. Smith, sheet webs in bank; ♀ KS59583, Bellinger River SF, data as above; ♀♀ KS75353, Bellinger River SF, 22 Nov. 2001, G. Milledge & H. Smith, in earth banks; ♀, KS34821, 2 miles W of Willi Willi on Carrai Rd, 30°56'S 152°27'E, M.R. Gray, 24 Apr. 1974, "*Baiami* type" (sheet) web in moist bank; ♀, KS37191, Boorook SF, Boonoo Boonoo River, 28°48'25"S 152°11'03"E, 18 Feb. 1993, M.R. Gray & G. Cassis, pitfall trap; ♀ KS75371, Mt Kaputar NP, 0.8 km W of Bark Hut Campsite, 30°17'09"S 150°08'12"E, 13 Nov. 2001, M. Gray, G. Milledge & H. Smith, sheet web in grassy earth bank; ♀ KS75372, Mt Kaputar NP, 1.9 km W of Bark Hut Campsite, 30°16'50"S 150°07'55"E, other data as above; ♀♀ KS75374–5, Mt Kaputar NP, 0.8 km W of Coryah Gap, 30°16'44"S 150°07'40"E other data as above; ♀♀ KS75376–7, Mt Kaputar NP, 1.6 km W of Coryah Gap, 30°16'13"S 150°07'11"E, other data as above; ♀♀ KS 75378, Mt Kaputar NP, 0.3 km W of Bark Hut, 30°17'22"S 150°08'24"E, other data as above. AUSTRALIA: QUEENSLAND—♂ QM S42308, Levers Plateau, 28°19'S 152°51'E, 2 Dec. 1991–6 Jan. 1992, D.J. Cook, 720 m, rainforest, pitfall. AUSTRALIA: VICTORIA—♀, KS58191, Kinglake NP, on SE slopes of Mt Slide, 4 km from SE entrance turn-off, 37°35'S 145°20'E, 29 Mar. 1978, M.R. Gray, in medium sized sheet webs; 3♀♀, KS3659, Lind NP, 19 km W of Cann River, Euchre Valley Road, 37°35'S 148°57'E, 24 Mar. 1978, M.R. Gray, sheet webs; ♀, KS3648, Alfred NP, 2 km W Governors Bend pull-in, 37°33'S 149°21'E, 23 Mar. 1978, M.R. Gray, roadside bank below rainforest, sheet webs c. 25 cm long; ♀, KS45206, Buchan Caves Reserve, 37°30'S 148°15'E, 25 Mar. 1978, M.R. Gray.

Diagnosis. CL 2.90–5.00. Separated from other females by large width across paired epigynal fossa (twice scape width) and broadened dorsal part of scape; from north Queensland species by presence of obvious leg banding; and from other males by the wide cymbium and bulb.

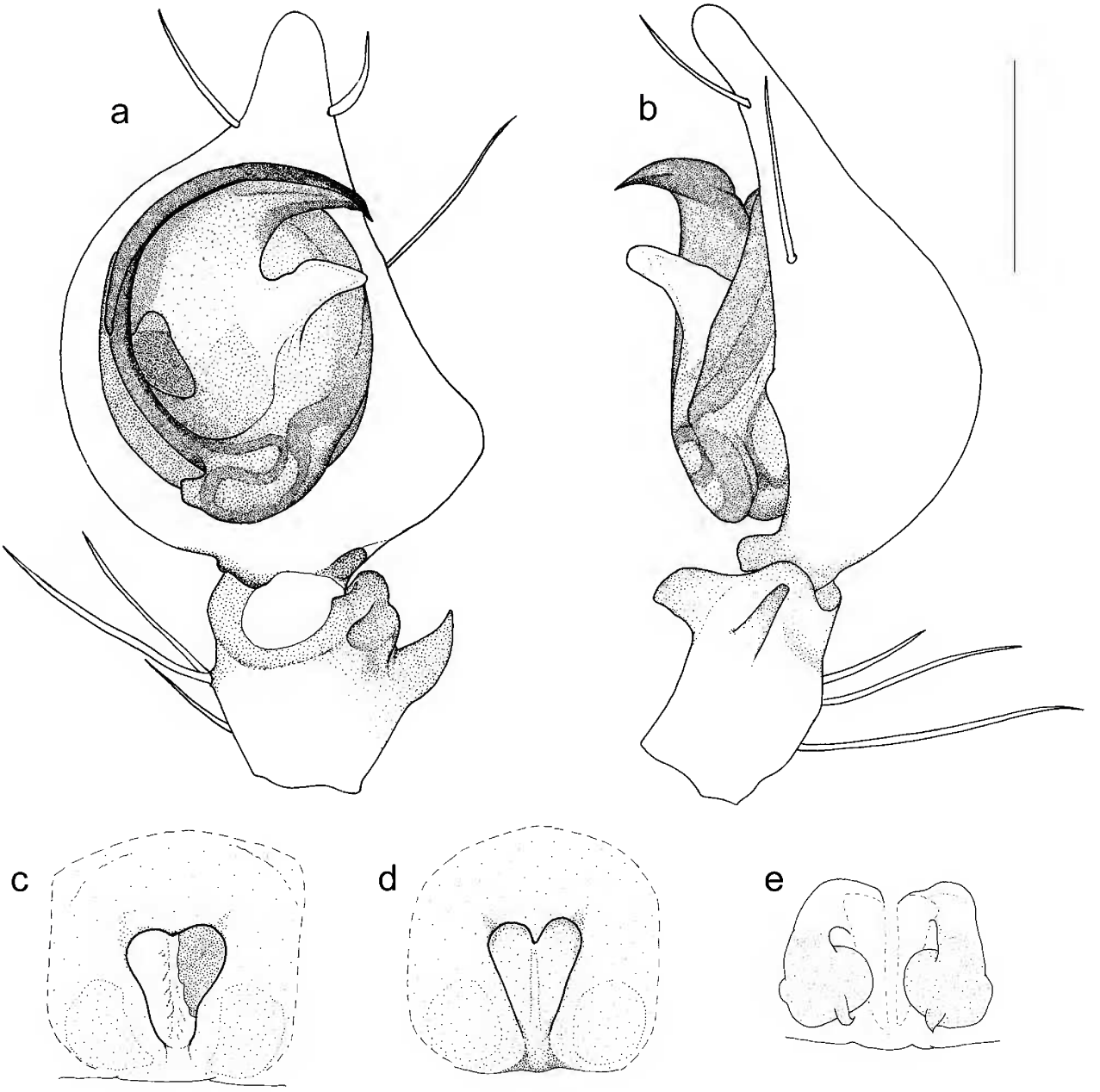

Figure 5. *Therlinya foveolata*. a,b, male palp (holotype): a, ventral; b, retrolateral; c–e, epigynum: c,d, ventral (c: plug on LHS); e, dorsal—internal genitalia. Scale line 0.5 mm. (c, KS34794; d, KS34797; e, KS34795).

Male (holotype). BL 7.47, CL 3.59 (3.35–4.78), CW 2.45, CapW 1.35, EGW 0.96, LL 0.47, LW 0.49, SL 1.75, SW 1.45. Legs: 1423 (I 13.88, II 12.12, III 10.12, IV 12.24); ratio tibia I length:CW = 1:0.74. Male palp: Fig. 4a,b. Cymbium wide with strongly developed retrolateral flange. Bulb wide with large, rounded tegular lobe placed retrolaterally. Embolus origin retrolateral. Stem of T-shaped conductor prolaterally directed, posterior limb placed prolaterally; tegular window large, placed basally. RTA apophysis dorsad, hidden in ventral view; RVTA broad, beak-like apex turned toward lower side in ventral view.

Female (KS58185). BL 7.39, CL 3.51 (2.90–5.00), CW 2.04, CapW 1.76, EGW 1.04, LL 0.53, LW 0.53, SL 1.51, SW 1.31. Standard colour pattern. Legs: 1423 (I 11.50, II 10.00, III 8.17, IV 10.17); ratio tibia I length:CW = 1:0.72. Epigynum: Fig. 4c–g. Scape moderately long, dorsobasal part of scape markedly broadened for half or more of scape length, with most of scape length placed in front of epigastric groove; ventral scape width varies from narrow to moderately broad; sides more or less parallel or, if divergent, scape relatively narrow; in side view distoventral scape protuberant; epigynal fossae oriented vertically. Internal genitalia: Fig. 4h.

Variation. There is a noticeable variation in body size (including male palp size) which appears to be seasonal. Specimens collected as adults in late summer–winter are medium–large, whereas those from spring–early summer are small–medium in size. Despite the individual variation observed in characters such as scape shape and palpal width, the overall pattern is one of a single, widely distributed but variable species.

Distribution. Eastern New South Wales and eastern Victoria. The only record of *Therlinya* from Tasmania (female, KS29134, Punchbowl, Launceston) may belong to this species but more material, including males, is needed before a definite species allocation is made.

Etymology. The specific name is taken from the type locality and is an Aboriginal word meaning "a beautiful place".

Therlinya foveolata n.sp.

Figs. 5a–e, 6

Type material. AUSTRALIA: VICTORIA—HOLOTYPE: ♂, KS34792 (AMS), near Delley's Dell turn-off, Silverband Road, Grampian Ranges, 37°11'S 142°31'E, 24 Mar. 1974, M.R. Gray, collected as juvenile, matured Apr. 1974. PARATYPES: ♀, KS34793, data as for holotype, adult coll.; ♀, KS34797, Stony Creek Bridge, near Hall's Gap, Grampian Ranges, 37°09'S 142°30'E, 21 Mar. 1974, M.R. Gray; 4♀♀, KS34795, 8 km SW of Hall's Gap on Silverband Road, Grampian Ranges, 37°11'S 142°31'E, 24 Mar. 1974, M.R. Gray; ♀, KS34796; ♀, KS34794, with 60 young; both data as for KS34795.

Other material. AUSTRALIA: VICTORIA—♀, KS73046, 10 km S of Forrest on Forrest–Apollo Bay Rd, Otway Ranges, 38°35'S 143°43'E, 31 Mar. 1978, M.R. Gray, in road bank—regrowth Stringybark forest above, in large sheet web, c. 35×15 cm curving up & out from bank retreat.

Diagnosis. CL 3.71–4.08. Separated from all other species by the pit-like epigynal fossa and centrad placement of the RTA.

Male (holotype). BL 7.71, CL 3.71, CW 2.47, CapW 1.53, EGW 1.03, LL 0.59, LW 0.50, SL 1.75, SW 1.49. Legs: 1423 (I 15.05, II 13.42, III 11.04, IV 13.89); ratio tibia I length:CW = 1:0.72. Male palp: Fig. 5a,b. Cymbium wide with well-developed retrolateral flange. Bulb longer than wide with tegular lobe placed basally. Embolus origin basal. Stem of T-shaped conductor anteriorly directed, posterior limb placed retrolaterally; tegular window small, prolateral. RTA large, centrad, and visible in ventral view; RVTA with broad, beak-like apex.

Female (KS34794). BL 7.67, CL 3.96 (3.96–4.08), CW 2.55, CapW 2.00, EGW 1.14, LL 0.63, LW 0.59, SL 1.82, SW 1.44. Standard colour pattern. Legs: 1423 (I 13.24, II 11.20, III 9.40, IV 11.60); ratio tibia I length:CW = 1:0.79. Epigynum: Fig. 5c,d. Cordate, unpaired, central fossa with copulatory openings placed at anterolateral corners and opening posteromedially. Scape absent to rudimentary, probably represented by a midline cusp on the anterior epigynal margin. Internal genitalia: Fig. 5e. Copulatory ducts short.

Distribution. Grampian and Otway Ranges, Victoria.

Comments. The Otway Range spiders may prove to be a separate species from the Grampian spiders but this will not be resolved until Otway males are available.

Etymology. The specific name refers to the pit-like epigynal fossa, unique within this genus.

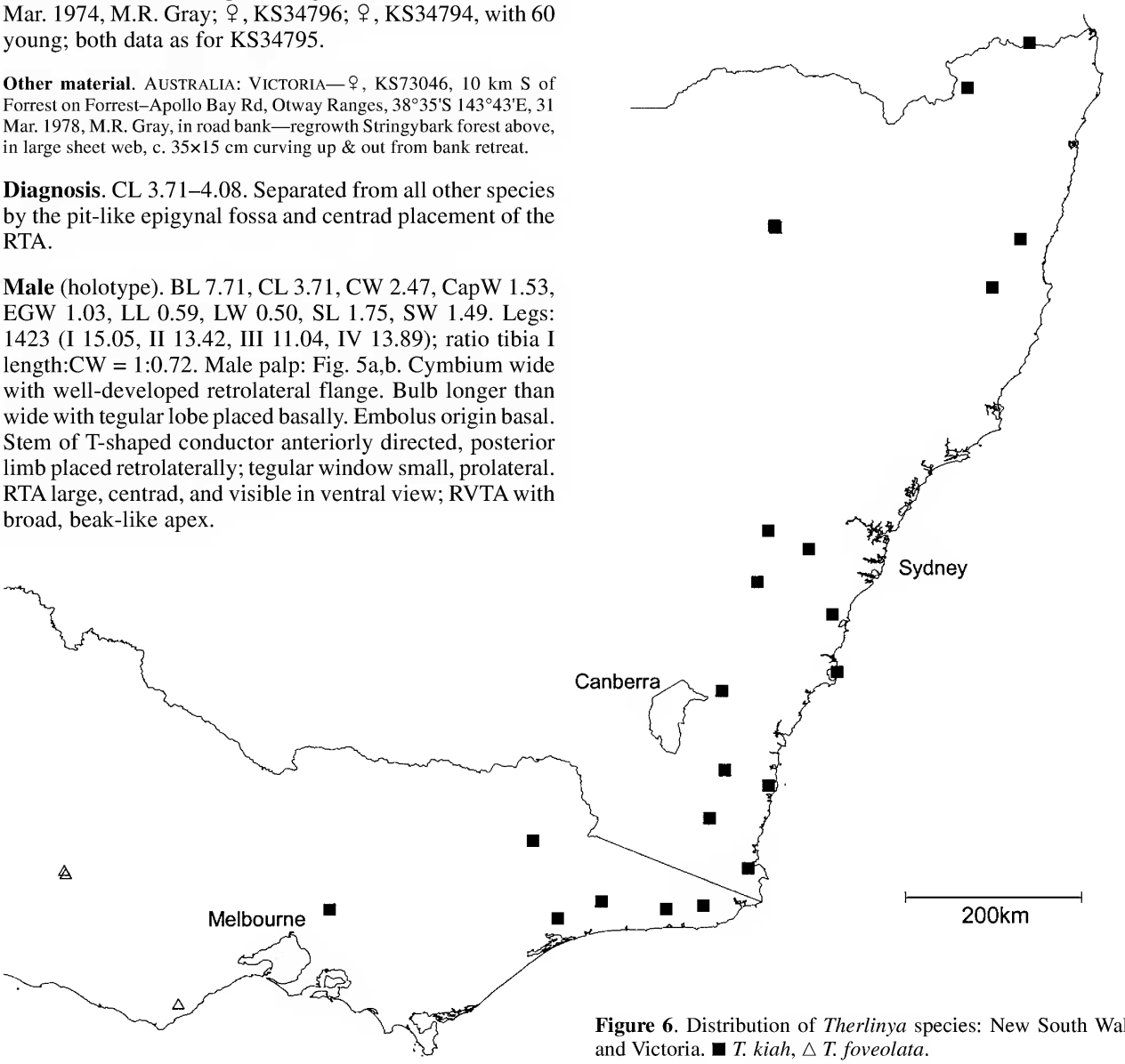

Figure 6. Distribution of *Therlinya* species: New South Wales and Victoria. ■ *T. kiah*, △ *T. foveolata*.

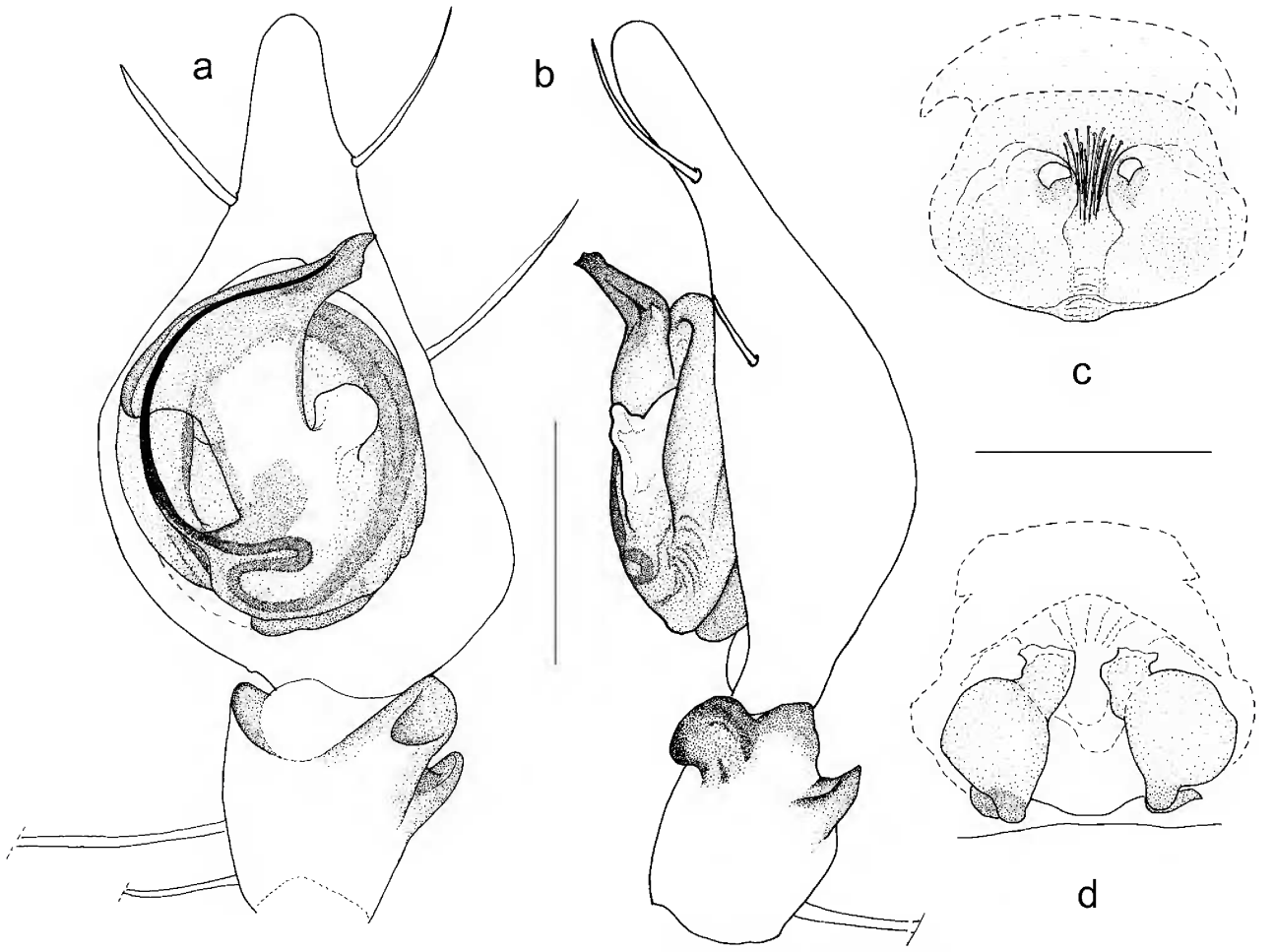

Figure 7. *Therlinya bellinger*. a,b, male palp (holotype): a, ventral, b; retrolateral. c–d, epigynum: c, ventral; d, dorsal—internal genitalia (c, KS59584; d, KS60711). Scale lines 0.5 mm: vertical, a,b; horizontal, c,d.

Therlinya bellinger n.sp.

Figs. 7a–d, 12

Type material. AUSTRALIA: NEW SOUTH WALES—HOLOTYPE: ♂, KS60708 (AMS), Bellingen area, Horseshoes Rd c. 1.5 km NNE Killiecrankie Mountain, 30°31'22"S 152°32'59"E, M.R. Gray, 11 Nov. 1999, ex earth bank as juvenile, matured early Jan. 2000. PARATYPES: ♀, KS59584, data as holotype except mature with eggsac in retreat; ♀, KS60711, Bellinger River SF, NW Thora, 30°25'03"S 152°45'30"E, 12 Nov. 1999, M.R. Gray & H.M. Smith, sheet web in bank.

Diagnosis. CL 3.92–4.20. Separated from all species except *T. foveolata* by basal position of tegular lobe and the absence of an epigynal scape; from *T. foveolata* by the dorsal position of the RTA and the absence of a pit-like epigynal fossa.

Male (holotype). BL 8.21, CL 3.92, CW 2.65, CapW 1.76, EGW 1.08, LL 0.65, LW 0.55, SL 1.84, SW 1.51. Legs: 1423 (I 16.90, II 14.49, III 12.20, IV 14.90); ratio tibia I length:CW = 1:0.64. Male palp: Fig. 7a,b. Cymbium with moderately developed retrolateral flange. Bulb longer than wide, tegular lobe basal. Embolus origin probasal. Stem of T-shaped conductor anteriorly directed, posterior limb prolateral-apical, anterior limb gently curved upward; tegular window prolateral. RTA dorsad, visible in ventral view; RVTA moderately long with broad, beak-like apex.

Female (KS59584). BL 8.61, CL 3,92 (3.92–4.20), CW 2.65, CapW 1.84, EGW 1.12, LL 0.63, LW 0.63, SL 1.73, SW 1.45. Standard colour pattern. Legs: 1423 (I 13.83, II 11.67, III 9.75, IV 12.08); ratio tibia I length:CW = 1:0.77. Epigynum (Fig. 7c) without scape or fossa, sclerotised with a median, slightly depressed area, and two anterior copulatory openings separated by a low hair-tufted prominence. Internal genitalia (Fig. 7d) with extremely short copulatory ducts.

Distribution. Bellingen region, northern New South Wales.

Etymology. The specific name is a noun in apposition referring to the type locality.

Therlinya horsemanae n.sp.

Figs. 8a–f, 12

Type material. AUSTRALIA: QUEENSLAND—HOLOTYPE: ♂, KS58196 (AMS), Bulburin Forestry Nursery, NW of Bundaberg, 24°31'S 151°29'E, 22 Mar. 1975, M.R. Gray & C. Horseman, sheet webs on roadside bank. PARATYPES: ♀, KS58199, data as for holotype; ♀, KS58197, ♂, KS58198, ♀ KS71038, data as for holotype, except 21 Mar. 1975; ♂, KS69652, ♀, KS34798, Bulburin Forestry Area, 24°34'S

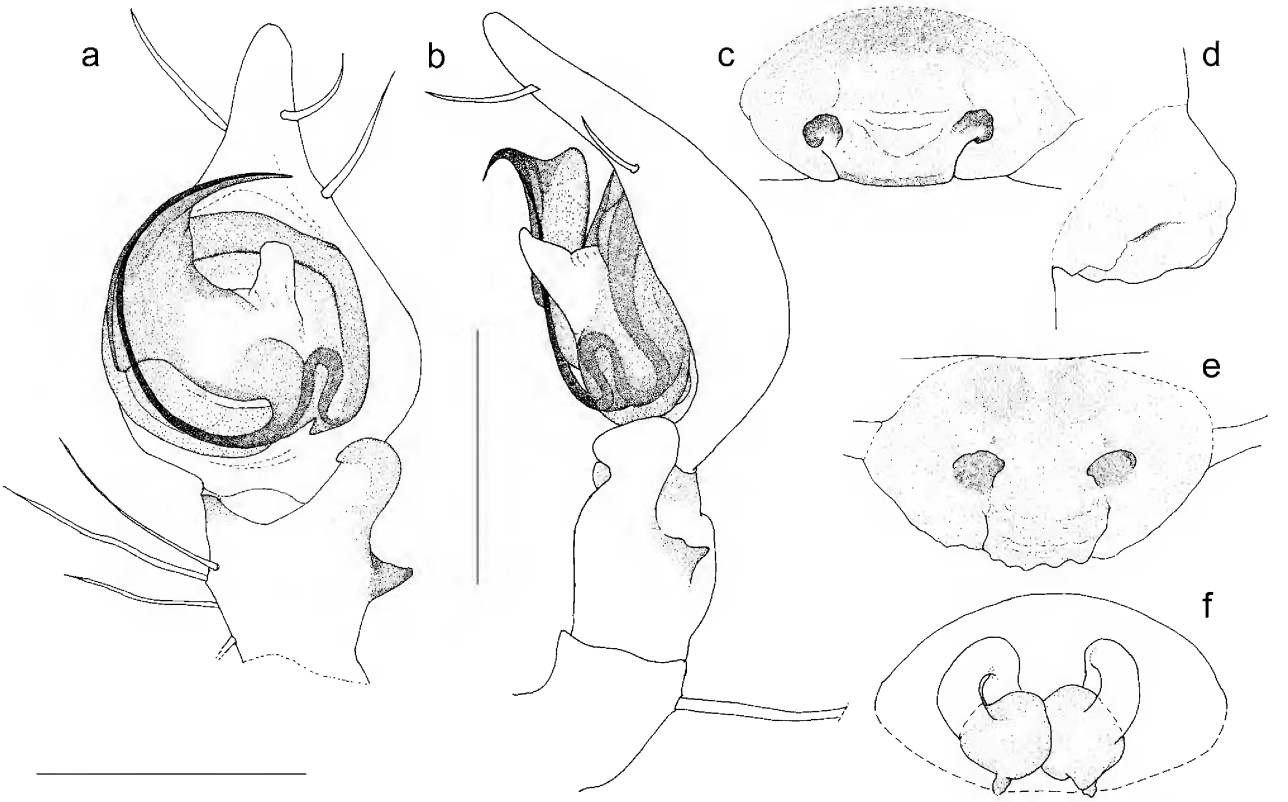

Figure 8. *Therlinya horsemanae*. a,b, male palp (holotype): a, ventral; b, retrolateral. c–f, epigynum (KS58197): c, ventral; d, lateral; e, posterior; f, dorsal—internal genitalia. Scale lines 0.5 mm: vertical, a,b; horizontal, c–f.

151°29'E, 22 Mar. 1975, M.R. Gray & C. Horseman, 580 m, bank beside road; ♂, QM S45529, data as for holotype.

Diagnosis. CL 2.53–3.67. Separated from other species by possession of a short, broad scape, widely truncated at level of epigastric groove; and by the slender, apically pointed, distal conductor.

Male (holotype). BL 5.96, CL 2.78 (2.53–2.98), CW 1.92, CapW 1.18, EGW 0.82, LL 0.41, LW 0.39, SL 1.31, SW 1.20. Legs: 1243 (I 14.82, II 13.55, III 10.53, IV 13.02); ratio tibia I length:CW = 1:0.50. Male palp: Fig. 8a,b. Cymbium with moderately developed retrolateral flange. Bulb subcircular with retrolaterally placed tegular lobe. Embolus origin basal. Stem of T-shaped conductor prolaterally directed, posterior limb placed prolaterally; tegular window placed basally. RTA weakly dorsad, visible in ventral view; RVTA moderately long, with beak-like apex turned toward upper side in ventral view.

Female (KS58197). BL 7.51, CL 3.67 (3.06–3.67), CW 2.29, CapW 1.73, EGW 1.08, LL 0.57, LW 0.55, SL 1.73, SW 1.45. Standard colour pattern. Legs: 1423 (I 13.55, II 11.47, III 9.47, IV 11.84); ratio tibia I length:CW = 1:0.66. Epigynum: Fig. 8c–e. Scape short and broad, not extended beyond epigastric groove; in side view distoventral scape protuberant; epigynal fossae narrow, oriented horizontally. Internal genitalia: Fig. 8f.

Distribution. Recorded only from the type locality near Bundaberg, Queensland.

Etymology. The specific name is in recognition of Christine Horseman, former Technical Officer in Arachnology at the Australian Museum.

Therlinya wiangaree n.sp.

Figs. 9a–f, 12

Type material. AUSTRALIA: NEW SOUTH WALES—HOLOTYPE: ♂, KS34826 (AMS), Wiangaree SF, 28°23'S 153°06'E, 16 Oct. 1974, M.R. Gray. PARATYPES: 2♀♀, KS58449, KS34827, 5♀♀, KS34825; data as for holotype; ♀, KS35944, Border Ranges NP, Tweed Range Rd, 500 m N of Sheepstation Creek track, 28°24'51"S 153°01'39"E, 18 Feb. 1993, M.R. Gray & G. Cassis, pit trap; ♀, QM S42314, Richmond Range, 18 Apr. 1976, R. Raven. AUSTRALIA: QUEENSLAND—1♂, 1♀, QM S42303, Binna Burra, 28°12'S 153°12'E, 7 Jan. 1977, B.J. & M. Marples, V.E. Davies; ♂♂, ♀♀, QM S42302, Lamington National Park, 28°14'S 153°08'E, 20–30 Mar. 1975, R. Raven, sheet web, spider runs on ventral surface into tube going into bank beside path; ♂, QM S42307, Springbrook, north end, 28°12'S 153°16'E, 30 Aug–31 Oct. 1997, G. Monteith, open forest, 550 m, pitfall trap.

Other material. AUSTRALIA: QUEENSLAND—1♂, 3♀♀, QM S42301, Binna Burra, 28°12'S 153°12'E, 30 Mar. 1976, R. Raven, V.E. Davies, sheet web; ♀, QM S42305, Binna Burra, 13 Mar. 1997, Monteith & Russell, rainforest, 800 m, sieved leaf litter; ♀, QM S42309, O'Reilly's, Lamington National Park, 28°14'S 153°08'E, 15 Nov. 1977, E. Dahms, V.E. Davies & R. Raven, sheet webs; ♀, QM S42304, Lamington, 28°15'S 152°58'E, 13 Apr. 1974, R. Raven, in sheet web with ventral retreat; ♀♀, QM S42310, Lamington NP, 9 Jul. 1977, R Raven, sheet web; ♀, QM S42312, Lamington, 22 Jun. 1974, R. Raven, on under side of sheet web, back to funnel under bank; ♀, S42306, O'Reilly's, Lamington NP, 25–6 Sep. 1986, J. Gallon, R.J. Raven; ♀♀, QM S42311, Nagarigoon, 28°11'S 153°11'E, 1 Apr. 1976, V.E. Davies, sheet web with retreat to bank; ♀, QM S42313, Witches Falls, Mt Tamborine, 27°55'S 153°10'E, 3 May 1981, V.E. Davies, sheet web under rock.

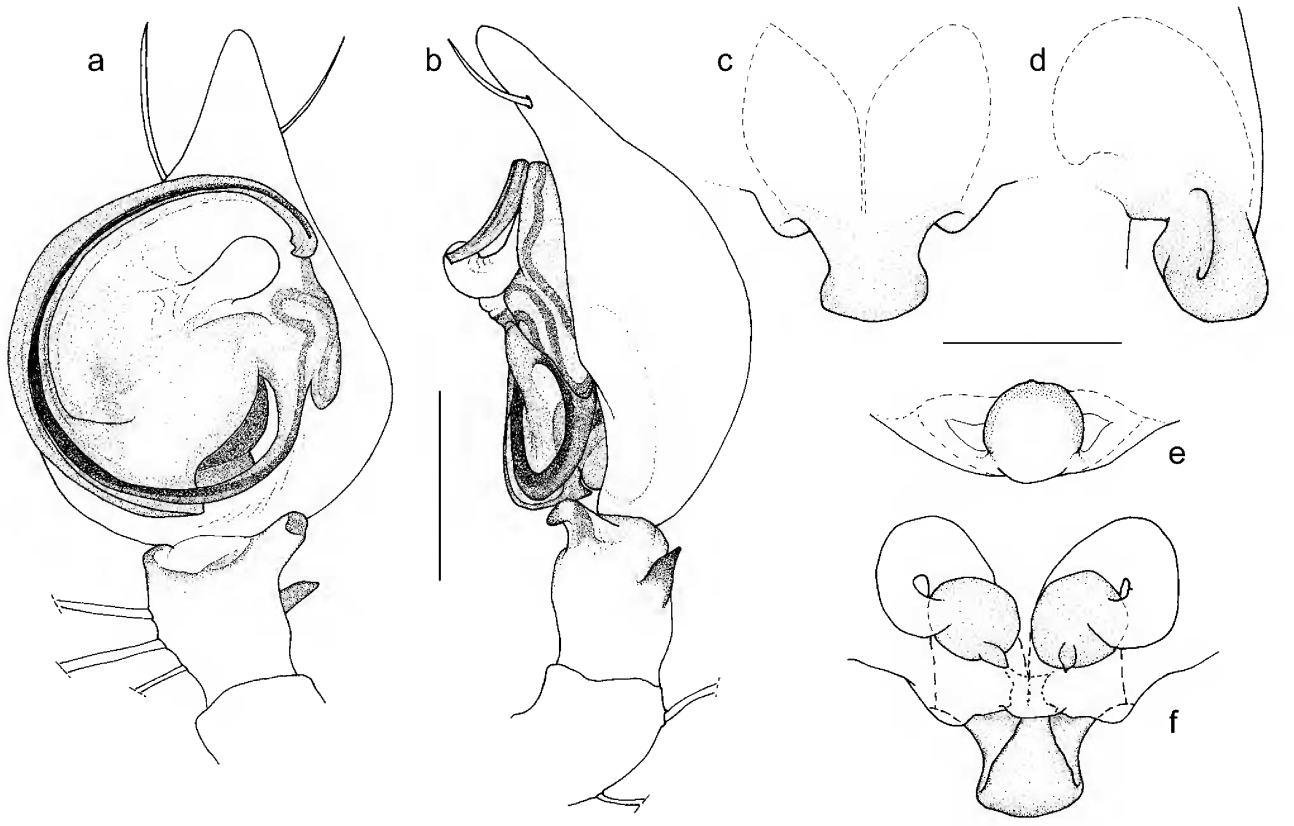

Figure 9. *Therlinya wiangaree*. a,b, male palp (holotype): a, ventral; b, retrolateral. c–f, epigynum (KS52449): c, ventral; d, lateral; e, posterior; f, dorsal—internal genitalia. Scale lines 0.5 mm: vertical, a,b; horizontal, c–f.

Diagnosis. CL 2.78–3.80. Separated from all species by the combination of relatively narrow width across the anterior fossae compared to width of distal scape, and rounded appearance of scape end in posterior view; from all species except *T. ballata* and *T. vexillum* by the retrobasal position of the tegular window; and from these species by the lack of a marked reflexion of the distal conductor.

Male (holotype). BL 6.86, CL 3.31 (2.78–3.39), CW 2.24, CapW 1.43, EGW 0.96, LL 0.51, LW 0.43, SL 1.55, SW 1.39. Legs: 1243 (I 15.18, II 13.27, III 10.78, IV 13.22); ratio tibia I length:CW = 1:0.58. Male palp: Fig. 9a,b. Cymbium with moderately developed retrolateral flange. Bulb longer than wide with tegular lobe placed retrolaterally. Embolus origin retrolateral. Stem of T-shaped conductor probasally directed; anterior limb long, apically relatively narrow with slight reflexion only; posterior limb placed basally; tegular window small, placed retrolaterally. RTA dorsad, largely visible in ventral view; RVTA relatively slender.

Female (KS58449). BL 7.55, CL 3.47 (3.47–3.80), CW 2.24, CapW 1.67, EGW 1.00, LL 0.51, LW 0.49, SL 1.57, SW 1.41. Standard colour pattern. Legs: 1423 (I 12.12, II 10.08, III 8.41, IV 10.37); ratio tibia I length:CW = 1:0.72. Epigynum: Fig. 9c–e. Scape of medium length, mostly placed behind epigastric groove; ratio width across anterior fossae to scape width at narrowest < 2.5:1; sides of scape slightly to deeply concave; end of scape truncate to convex; rounded and sometimes bulbous in posterior view; distoventral scape protuberant in side view; epigynal fossae vertical. Internal genitalia: Fig. 9f.

Distribution. Border Ranges area of northeastern New South Wales and southeastern Queensland.

Variation. Epigynal scapes vary from the example figured with highly concave sides (Fig. 9c) to a shape very similar to *T. vexillum* (Fig. 11c). The combination of characters given in the diagnosis will suffice to separate these species.

Etymology. The specific name is taken from the type locality which is an Aboriginal word meaning "a pine ridge".

Therlinya ballata n.sp.

Figs. 10a–f, 12

Type material. AUSTRALIA: NEW SOUTH WALES—HOLOTYPE: ♂, KS34842 (AMS), Cherry Tree North SF, SW of Casino, 28°54'S 152°45'E, Apr. 1976, M.R. Gray & C. Horseman. PARATYPES: ♀, KS58201, data as for holotype; ♂, KS57681, Acacia Plateau & Wilson's Peak area, Koreelah SF, 28°16'S 152°27'E, 12 Dec. 1988, Smith, Hines, Pugh & Webber, Focal Peak Survey, trap AP5; ♂, KS57683, Cambridge Plateau, Richmond Range SF, 28°47'S 152°45'E, 17 Dec. 1988, Smith, Hines, Pugh & Webber, Focal Peak Survey, trap CP9; ♀, KS37198, Boorook SF, 1 km NW Boorook Creek junction on Conlongan Rd, 28°51'24"S 152°11'27"E, 18 Feb. 1993, M.R. Gray & G. Cassis, pit-traps, site 09BM.

Diagnosis. CL 2.65–3.75. Separated from all species by the asymmetric shape of the epigynal fossae; and from most species by the partial reflexion of the end of the conductor, except *T. vexillum* in which reflexion is stronger.

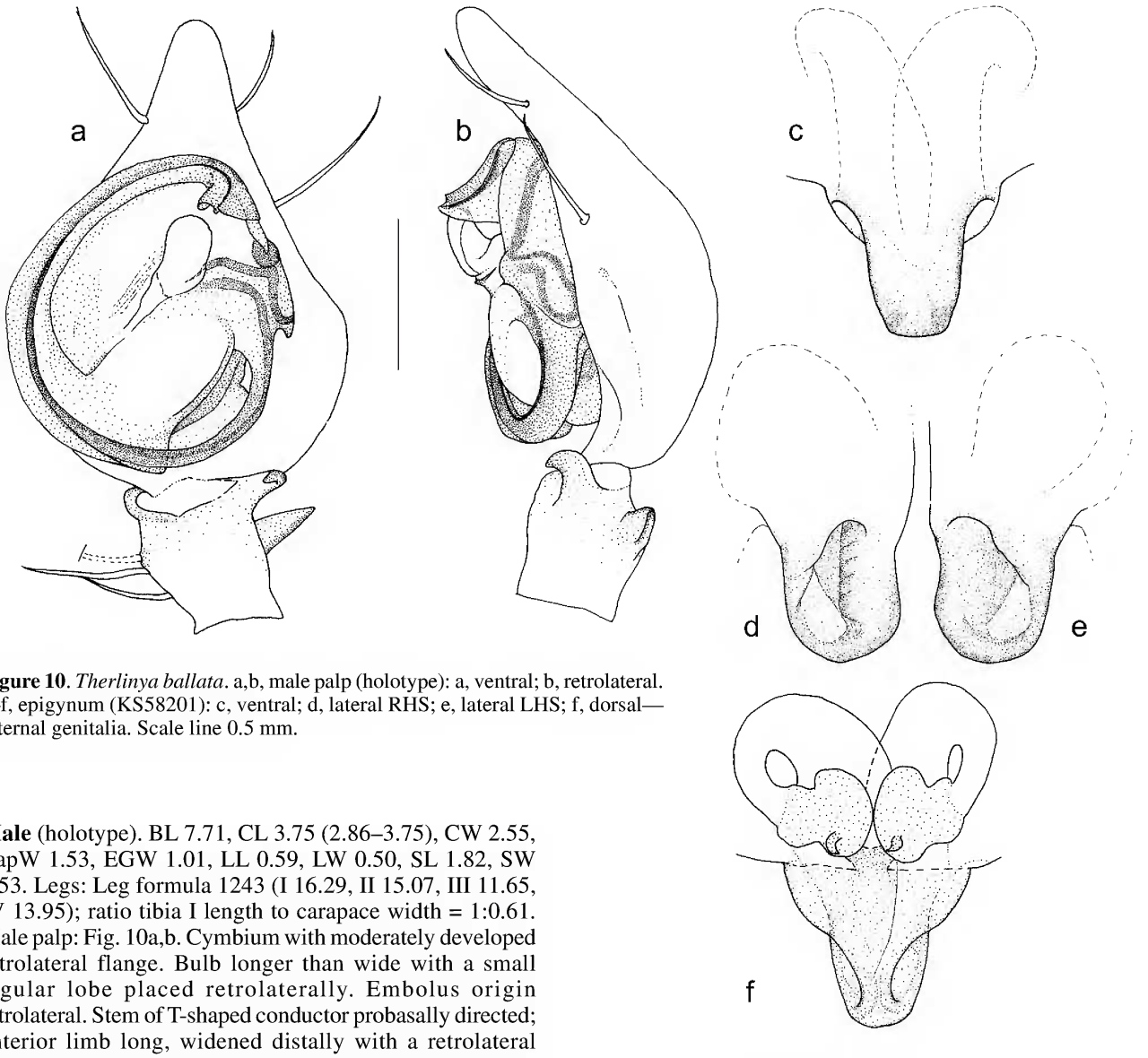

Figure 10. *Therlinya ballata*. a,b, male palp (holotype): a, ventral; b, retrolateral. c–f, epigynum (KS58201): c, ventral; d, lateral RHS; e, lateral LHS; f, dorsal—internal genitalia. Scale line 0.5 mm.

Male (holotype). BL 7.71, CL 3.75 (2.86–3.75), CW 2.55, CapW 1.53, EGW 1.01, LL 0.59, LW 0.50, SL 1.82, SW 1.53. Legs: Leg formula 1243 (I 16.29, II 15.07, III 11.65, IV 13.95); ratio tibia I length to carapace width = 1:0.61. Male palp: Fig. 10a,b. Cymbium with moderately developed retrolateral flange. Bulb longer than wide with a small tegular lobe placed retrolaterally. Embolus origin retrolateral. Stem of T-shaped conductor probasally directed; anterior limb long, widened distally with a retrolateral lamina and partially reflexed; posterior limb placed basally; tegular window small, placed retrolaterally. RTA dorsad, visible in ventral view; RVTA relatively slender with small beak-like apex.

Female (KS58201). BL 7.96, CL 3.60 (2.65–3.60), CW 2.29, CapW 1.71, EGW 1.03, LL 0.58, LW 0.52, SL 1.67, SW 1.31. Standard colour pattern. Legs: 1423 (I 12.84, II 10.80, III 9.13, IV 11.45); ratio tibia I length:CW = 1:0.70. Epigynum: Fig. 10c–e. Scape relatively long, mostly placed behind epigastric groove; moderately broad with sides gradually narrowing distally; in side view distoventral scape weakly protuberant. Epigynal fossae vertical but their shapes are somewhat distorted due to internal overlap and displacement of proximal copulatory ducts. Internal genitalia: Fig. 10f. Copulatory ducts very broad and overlapping proximally, so that the inner walls of the epigynal fossae are displaced relative to each other (Fig. 10d–f).

Distribution. Northeastern New South Wales.

Etymology. The specific name is an Aboriginal word for the native cherry tree and is a reference to the type locality.

Therlinya vexillum n.sp.

Figs. 11a–f, 12

Type material. AUSTRALIA: QUEENSLAND—HOLOTYPE: ♂, KS34817 (AMS), Mount Glorious, 27°20'S 152°46'E 18 Nov. 1974, M.R. Gray, rainforest. PARATYPES: 2♀♀, KS58200, KS34818, data as for holotype; ♂, QM S42315, Enoggera Reservoir, 27°27'S 152°55'E, 16 Oct.–4 Nov. 1999, C.J. Burwell, 100 m, rainforest, site 3, malaise trap; 2♀♀, QM S42317, Mt Glorious NP, 6 Jan. 1977, B.J. & M.J. Marples, R. Raven, V.E. Davies; 2♂♂, 2♀♀, QM S42319 Booloumba Ck, Conondale Range, c. 26°39'S 152°39'E, 13–18 Apr. 1976, R. Raven.

Other material. AUSTRALIA: QUEENSLAND—♂ KS69688, Brisbane Forest Park, 27°25'04"S 152°49'48"E, 23–28 Nov. 1997, N. Power, malaise trap; ♂ KS69484, Brisbane Forest Park, 27°25'05"S 152°50'13"E, 30 Mar.–4 Apr. 1998, N. Power, malaise trap, creek; ♀, QM S42318, Mt Glorious, 15 Feb.–25 Mar. 1983, A. Hiller, malaise trap; ♂, QM S42316, Brookfield, 27°30'S 152°55'E, 9 Nov. 1975–27 Feb. 1976, G.B. & S.R. Monteith, 110 m, pitfall trap.

Diagnosis. CL 2.78–4.00. Separated from all species by very strong reflexion of the distal conductor; and by the combination of the relatively broad width across the

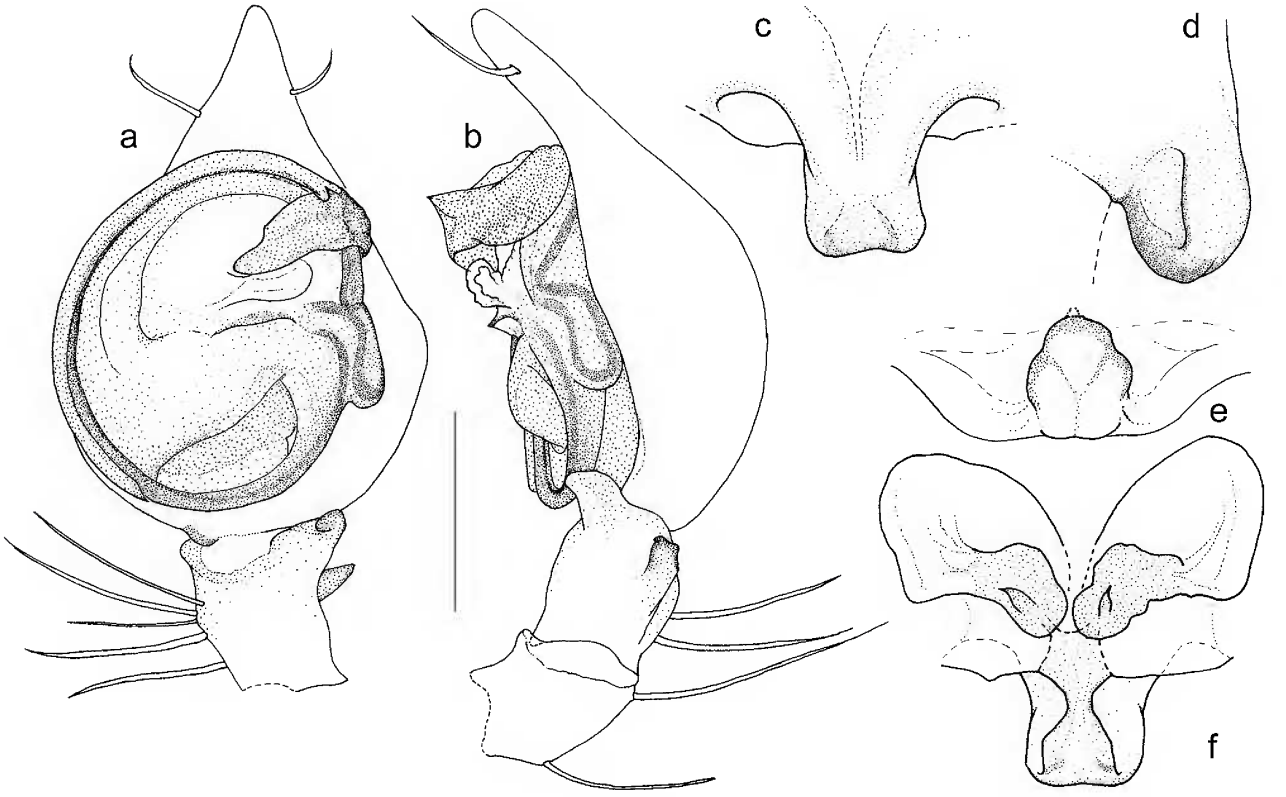

Figure 11. *Therlinya vexillum*. a,b, male palp (holotype): a, ventral; b, retrolateral. c–f, epigynum (KS34818): c, ventral; d, lateral; e, posterior; f, dorsal—internal genitalia. Scale line 0.5 mm.

epigynal fossae compared to width of distal scape, and lobed appearance of the scape in posterior view.

Male (holotype). BL 5.75, CL 2.91 (2.91–3.92), CW 2.07, CapW 1.24, EGW 0.83, LL 0.45, LW 0.43, SL 1.45, SW 1.24. Legs: 1243 (I 13.89, II 12.29, III 9.56, IV 12.04); ratio tibia I length:CW = 1:0.59. Male palp: Fig. 11a,b. Cymbium with moderately developed retrolateral flange. Bulb longer than wide with the tegular lobe placed retrolaterally. Embolus origin retrolateral. Stem of T-shaped conductor probasally directed; anterior limb long, strongly expanded distally and fully reflexed; posterior limb placed probasally; tegular window placed retrobasally. RTA dorsad, largely visible in ventral view; RVTA relatively slender towards apex.

Female (KS58200). BL 6.84, CL 3.02 (2.78–4.00), CW 1.98, CapW 1.42, EGW 0.88, LL 0.49, LW 0.45, SL 1.46, SW 1.21. Standard colour pattern. Legs: 1423 (I 11.02, II 9.13, III 7.49, IV 9.40); ratio tibia I length:CW = 1:0.72. Epigynum: Fig. 11c–e. Scape relatively long, mostly placed behind epigastric groove; sides weakly concave to parallel; end of scape truncate or slightly indented, and lobate in posterior view; ratio of width across anterior ends of epigynal fossae to scape width at narrowest point > 2.5:1; in side view distoventral scape weakly protuberant; epigynal fossae vertical. Internal genitalia: Fig. 11f.

Variation. Specimens from the Conondale Ranges are larger and the reflexed end of the conductor is broader than in other specimens.

Distribution. The Brisbane area of southeast Queensland and northwards to the Conondale Ranges.

Etymology. The specific name refers to the extended, reflexed tip of the conductor in the male palpus and means "banner" or "flag" (L.).

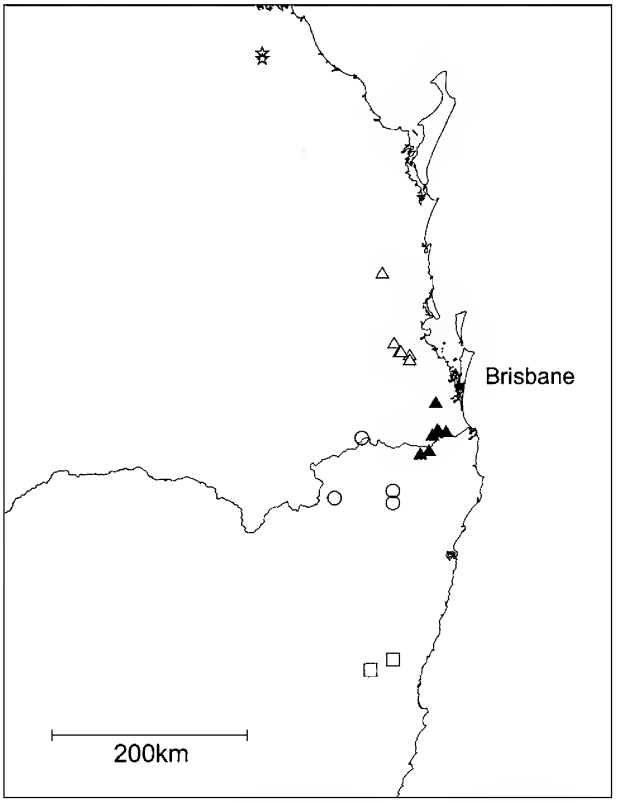

Figure 12. Distribution of *Therlinya* species: northern New South Wales and southeast Queensland. ▲ *T. wiangaree*, △ *T. vexillum*, ☆ *T. horsemanae*, ○ *T. ballata*, □ *T. bellinger*.

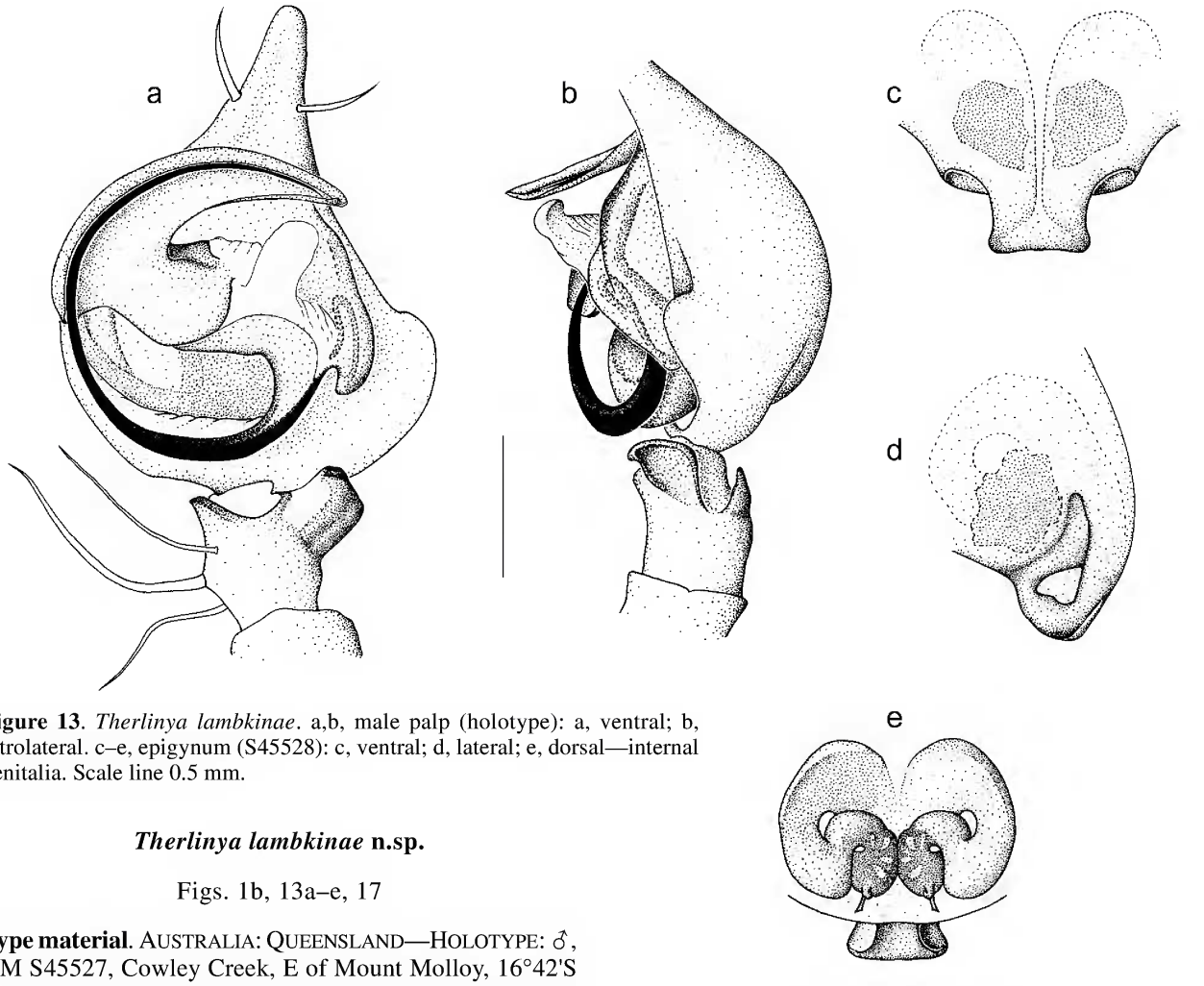

Figure 13. *Therlinya lambkinae*. a,b, male palp (holotype): a, ventral; b, retrolateral. c–e, epigynum (S45528): c, ventral; d, lateral; e, dorsal—internal genitalia. Scale line 0.5 mm.

Therlinya lambkinae n.sp.

Figs. 1b, 13a–e, 17

Type material. AUSTRALIA: QUEENSLAND—HOLOTYPE: ♂, QM S45527, Cowley Creek, E of Mount Molloy, 16°42'S 145°23'E, 3–10 Nov. 1975, R. Raven & V.E. Davies, lacy web with retreat to rotting logs. PARATYPES: ♀, QM S45528, data as for holotype; ♂, 2♀♀, QM S42260, data as for holotype; ♀, KS58323, ♂, KS58324, Goldsborough Valley SF, 4.1 km S of Mulgrave River crossing, 17°14'S 145°46'E, 23 May 2000, G. Milledge & H.M. Smith, rainforest, sheet webs out from retreats in almost vertical earth bank on roadside; ♀, KS4166, Mt Lewis, 16°35'S 145°17'E, 19 Aug. 1978, R. Mascord; ♀, KS34799, Gordonvale–Atherton Rd, just S of Lake Barrine turn-off, 17°15'S 145°38'E, 16 Nov. 1975, M.R. Gray, medium-size sheet web woven among leaf litter and going into bank hole c. 4 cm deep, ♀ with round egg sac attached to roof; ♂, KS42608, Mt Spurgeon, 16°26'S 145°12'E, 19 Apr. 1994, M. Moulds & J. Thompson, eucalypt forest, messy platform above retreat under log; ♂, KS58325, ♀, KS58326, Goldsborough Valley SF, c. 1.5 km N of campsite, 17°14'S 145°46'E, 22 May 2000, G. Milledge & H.M. Smith, rainforest, sheet webs out from retreats in almost vertical earth bank on roadside; ♂, KS58327, Cape Kimberley Rd, 2.7 km from Cape Tribulation Rd, 16°15'58"S 145°27'35"E, 20 May 2000, G. Milledge & H.M. Smith, in rotting log; ♂♂, QM S14104, Paluma Dam Rd, 19°00'S 146°10'E, 2 Sep. 1988, R. Raven, J. Gallon & T. Churchill, fringe rainforest; ♂, QM S16725, Mossman Bluff track, 5–10 km W of Mossman, 16°27'S 145°18'E, 20 Dec. 1989–15 Jan. 1990, Monteith, Thompson & ANZSES, 760 m, site 5 flight intercept; ♂, QM S17862, Mt Elliot, summit, 19°30'S 146°57'E, 26 Mar. 1991, G. Monteith & D. Cook, 1150 m.

Other material. AUSTRALIA: QUEENSLAND—♀, QM S17874, Mt Elliot, North Creek, 19°29'S 146°57'E, 25–27 Mar. 1991, G. Monteith & D. Cook, 1000 m; ♀, QM S24424, Mt Halifax, 19°07'S 145°23'E, 19–21 Mar. 1991, G. Monteith & D. Cook, E/W ridge, 900 m; ♂, ♀, QM S42261, Mt Lewis, 12 Sep. 1971, N. Clyde-Coleman; ♀, QM S42267, Mossman Bluff track, 9 km W of Mossman, 16°27'S 145°17'E, 20–24 Dec. 1989, Monteith, Thompson & ANZSES, 1000 m; ♂, QM S42268, Mossman Bluff track, 5–10 km W of Mossman, 16–30 Dec. 1988, Monteith, Thompson & ANZSES, 1000 m, site 7, flight intercept; ♀, QM S42273, Emerald Creek, Lamb Range, c. 17°04'S 145°35'E, 11 Oct. 1982, Monteith, Yeates & Thompson, 950 m; ♀, QM S42280, en route to Flat Peak, Cape Tribulation Rd, 16°15'S 145°25'E, 27 Jul. 1991, T. Churchill, 400 m; ♂♂, QM S42284, 3 km S Mt Spurgeon, 16°27'S 145°11'E, 20–22 Nov. 1997, D.J. Cook, 1100 m, pitfall traps, open forest; ♂, QM S42285, Mt Spurgeon, 16°27'S 145°12'E, 19 Nov. 1997–8 Feb. 1998, Monteith & Cook, 1120 m, O/F trap 5, pitfall; ♂♂, QM S42286, Mt Spurgeon, 16°28'S 145°12'E, 19 Nov. 1997–8 Feb. 1998, Monteith & Cook, 1110 m, O/F trap 6, pitfall; ♂, QM S42287, Mt Spurgeon, 16°28'S 145°12'E, 20 Nov. 1997–8 Feb. 1998, Monteith & Cook, 1120 m O/F trap 7, pitfall; ♂, QM S42290, Black Mountain, 17 km ESE of Julatten, 16°39'S 145°29'E, 29–30 Apr. 1982, Monteith, Yeates & Cook, 800–1000 m; ♂, QM S42296, Mt Spec, 18°55'S 146°10'E, 6 Feb.–9 Mar. 1995, M. Cermak, 880 m, S2, malaise trap; ♂, QM S42297, Seaview Range, Mt Fox Rd, c. 18°51'S 145°50'E, 15 Dec. 1986, Monteith, Thompson & Hamlet, RF, 600 m; ♂♂, QM S42298, Paluma Dam Rd, site 3, 8 Dec. 1990–5 Feb. 1991, Monteith & Seymour, 800 m, flight intercept trap; ♂♂, QM S42299, Paluma Dam Rd, site 1, 8 Dec. 1990–5 Feb. 1991, Monteith & Seymour, 900 m, flight intercept trap; ♂♂, QM S42300, Paluma Dam Rd, site 5, 8 Dec. 1990–5 Feb. 1991, Monteith & Seymour, flight intercept trap; ♂♂, QM S46801, Mt Halifax summit, 19°07'S 145°23'E, 21 Mar.–10 May 1991, D. Cook, pitfalls & intercepts.

Diagnosis. CL 2.94–4.69. Separated from all species, except other northern Queensland species, by weakness of leg banding; from *T. monteithi* by larger size of scape and

smaller RTA; from *T. angusta* by greater width of scape and relatively wider cymbial flange; from *T. nasuta* by presence of scape.

Male (holotype). BL 6.78, CL 3.59 (2.94–4.69), CW 2.45, CapW 1.51, EGW 0.94, LL 0.55, LW 0.53, SL 1.84, SW 1.47. Legs: 1243 (I 17.42, II 15.83, III 12.67, IV 15.50); ratio tibia I length:CW = 1:0.55. Male palp: Fig. 13a,b. Cymbium wide with strongly developed retrolateral flange. Bulb wider than long; tegular lobe placed retrolaterally, with prominent conical base. Embolus origin retrolateral. Stem of T-shaped conductor prolaterally directed, posterior limb placed prolaterally; tegular window large, placed basally. RTA dorsad, hidden in ventral view; RVTA broad, width about half tibia length, with beak-like apex turned toward upper side in ventral view.

Female (S45528). BL 7.35, CL 3.47 (3.27–4.29), CW 2.20, CapW 1.67 EGW 0.98, LL 0.55, LW 0.55, SL 1.63, SW 1.31. Northern colour pattern. Legs: 1423 (I 12.25, II 10.50, III 8.67, IV 10.67); ratio tibia I length:CW = 1:0.71. Epigynum: Fig. 13c,d. Scape wide, sides gently concave, most of scape placed behind level of epigastric groove; in side view distoventral scape curved inwards, not protuberant; epigynal fossae oriented diagonally. Internal genitalia: Fig. 13e.

Variation. Epigynal scapes vary in width, the widest being those from Mt Lewis and near Lake Barrine.

Distribution. Northeastern Queensland from the Townsville region northwards to the Daintree region.

Etymology. The specific name is in honour of Christine Lambkin, the illustrator of the type specimens.

Therlinya angusta n.sp.

Figs. 14a–e, 17

Type material. AUSTRALIA: QUEENSLAND—HOLOTYPE: ♂, QM S42281, Mount Misery road, 15°53'S 145°13'E, 6 Dec. 1990–17 Jan. 1991, Qld Museum & ANZSES, 730 m, flight intercept site 1. PARATYPES: ♀, QM S42271, Mt Hartley, 15°46'S 145°20'E, 6 Nov. 1974, J. Covacevich, D. Joffe & V.E. Davies, under stone on creek bed in cell retreat with web; ♂, KS58195, 4 ♀♀, KS69646–49, Windsor Tableland, near Forestry Hut, 16°16'S 145°02'E, 23 Jul. 1995, J. Thompson, M. Moulds, M. Tio, F. Mackillop, J. Olive, platform webs on side of bank in rainforest; ♀♀, KS44197, Windsor Tableland, at highest point of tableland, 16°14'S 145°00'E, 23 Jul. 1995, J. Thompson, M. Moulds, M. Tio, F. Mackillop, J. Olive, rainforest; ♀, KS43619, locality data as above, J. Thompson, 17 Apr. 1994; ♀, QM S42269, Thornton Peak via Daintree, 16°10'S 145°23'E, 22 Sep. 1981, G. Monteith & D. Cook, 700–1000 m, rainforest; ♂, QM S42282, Mt Sampson, 15°48'S 145°12'E, 27 Dec. 1990–18 Jan. 1991, ANZSES Expedition, 600–790 m, flight intercept trap; ♀, QM S42270, Shipton's Flat, 15°48'S 145°16'E, 19 Nov. 1975, V.E. Davies, C. Roberts, small shawl web & deep funnel retreat of thick silk in bank of dry stream bed.

Diagnosis. CL 2.98–4.78. Separated from all species, except other northern Queensland species, by weakness of leg banding; from *T. monteithi* by greater length of scape and smaller RTA; from *T. lambkinae* by lesser width of scape and relatively narrower cymbial flange width; from *T. nasuta* by presence of scape.

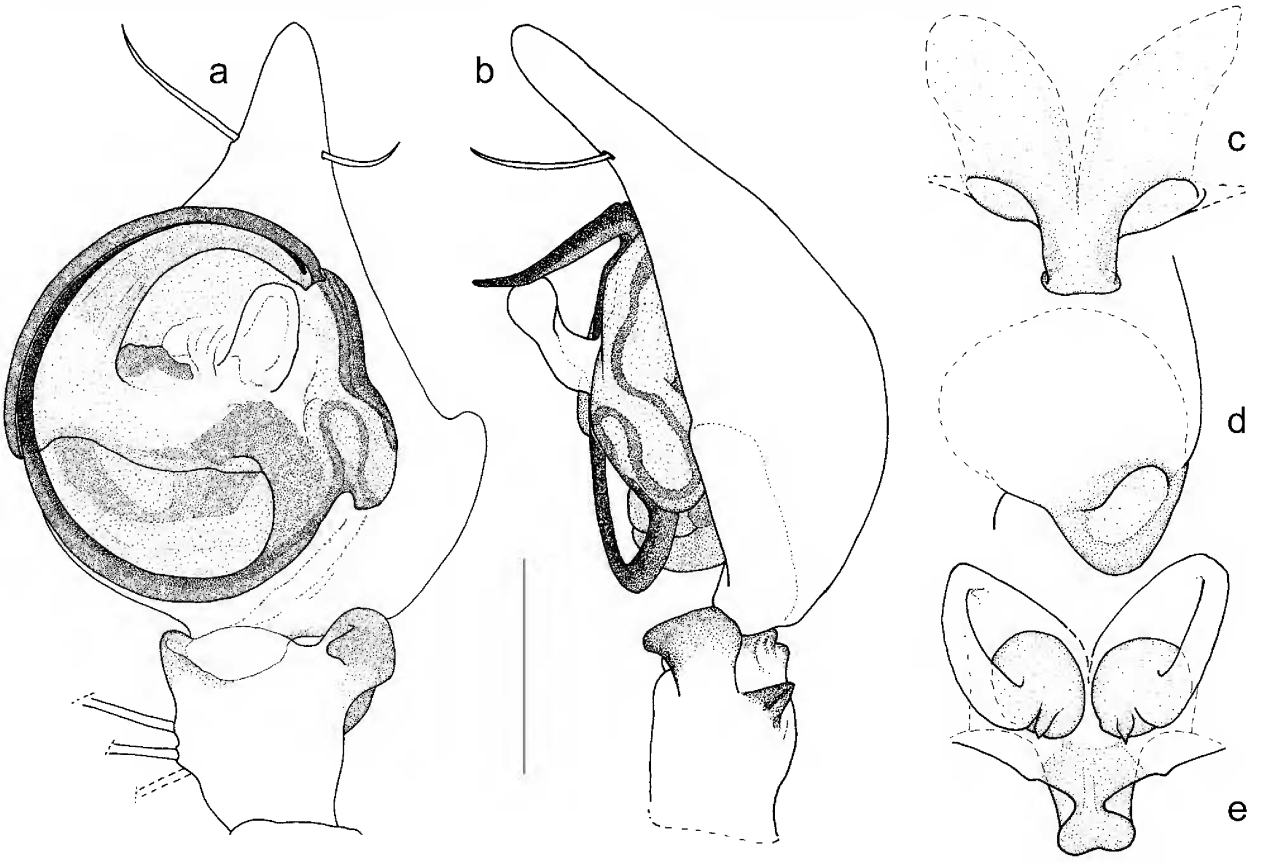

Figure 14. *Therlinya angusta*. a,b, male palp (KS58195): a, ventral; b, retrolateral; c–e, epigynum (S42271): c, ventral; d, lateral; e, dorsal—internal genitalia. Scale line 0.5 mm.

Male (holotype). BL 6.57, CL 3.22 (2.98–3.67), CW 2.37, CapW 1.43, EGW 0.92, LL 0.49, LW 0.49, SL 1.59, SW 1.39. Legs: 1423 (I 16.33, II 14.67, III 11.67, IV 14.83); ratio tibia I length:CW = 1:0.57. Male palp: Fig. 14a,b, KS58195. Cymbium wide with strongly developed retrolateral flange. Bulb subcircular; tegular lobe well developed, placed retrolaterally. Embolus origin retrolateral. Stem of T-shaped conductor prolaterally directed, posterior limb placed prolaterally; tegular window large, placed basally. RTA short, dorsad, mostly hidden in ventral view; RVTA broad, width about one-third tibial length, with beak-like apex turned toward upper side in ventral view.

Female (S42271). BL 7.84, CL 3.84 (3.35–4.78), CW 2.24, CapW 1.80, EGW 1.10, LL 0.59, LW 0.57, SL 1.71, SW 1.43. Northern colour pattern. Legs: 1423 (I 12.92, II 11.33, III 9.25, IV 11.50); ratio tibia I length:CW = 1:0.65. Epigynum: Fig. 14c,d. Scape relatively narrow, sides subparallel, distally truncate, at least half of scape projecting behind level of epigastric groove; in side view distoventral scape curved inwards, not protuberant; epigynal fossae oriented diagonally. Internal genitalia: Fig. 14e.

Distribution. From the Windsor Tableland northwards to Helenvale, south of Cooktown, northeastern Queensland.

Etymology. The specific name means "narrow" (L.) and refers to the width of the female scape in comparison to the other north Queensland species.

Therlinya monteithi n.sp.

Figs. 15a–f, 17

Type material. AUSTRALIA: QUEENSLAND—HOLOTYPE: ♂, QM S45530, Massey Range, 4 km W of Centre Bellenden Ker, QLD, 17°16'S 145°49'E, 9–11 Oct. 1991, Monteith, Janetzki & Cook, 1250 m. PARATYPES: ♀, QM S45531, data as for holotype; ♂, KS34800, Yungaburra, 17°16'S 145°35'E, 19 Sep. 1976, R. Mascord; ♀, QM S42272, data as for holotype (retained by AMS: KS69650).

Other material. AUSTRALIA: QUEENSLAND—♂ QM S42291, Lambs Head, 10 km W Edmonton, 17°01'S 145°38'E, 4–13 Dec. 1988, Monteith & Thompson, 1200 m, flight intercept trap; ♂, QM S42295, Bartle Frere, W Base, 17°23'S 145°46'E, 25 Nov. 1994–10 Jan. 1995, Monteith & Hasenpusch, 50 m, flight intercept trap; ♂, QM S42279, Malanda Falls, Malanda, 17°21'S 145°36'E, 6 Oct. 1980, G.B. Monteith, 750 m, rainforest, stick brushing; ♂, QM S42293, Bellenden Ker Range, Cable Tower 3, 17°16'S 145°53'E, 17–24 Oct. 1981, Earthwatch/Qld Museum, 1054 m, flight intercept trap; ♀, QM S42277, Major's Mountain, 17°38'S 145°32'E, 14–20 Apr. 1978, V.E. Davies, & R. Raven (see under "variation", below); ♀♀, QM S42278, Maalan SF (as Malaan SF on label), 17°37'S 145°37'E, 20–24 Apr. 1978, V.E. Davies, R. Raven, large sheet web on bank with retreat funnel into roots; ♀, KS58378, Mt Hypipamee NP, The Crater, 17°25'29"S 145°29'00"E, 25 Apr.–2 May 1998, G. Milledge, rainforest, pitfall trap.

Diagnosis. CL 3.71–4.49. Separated from all species, except other northern Queensland species, by weakness of leg banding; from both *T. lambkinae* and *T. angusta* by the presence of a much shorter scape and a much larger RTA; from *T. nasuta* by presence of scape.

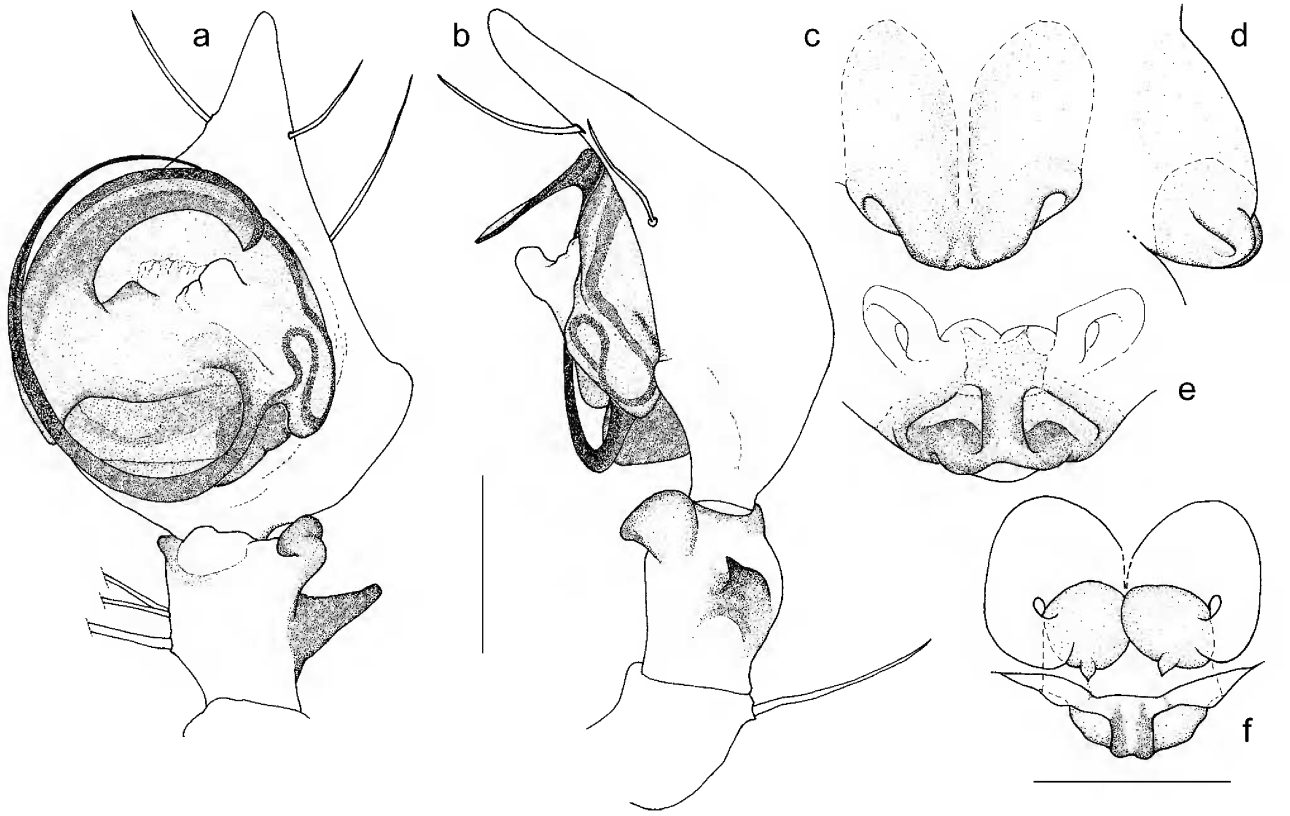

Figure 15. *Therlinya monteithi*. a,b, male palp (holotype): a, ventral; b, retrolateral (embolus free of conductor). c–f, epigynum (S45531): c, ventral; d, lateral; e, posterior; f, dorsal—internal genitalia. Scale lines 0.5 mm: vertical, a,b; horizontal, c–f.

Male (holotype). BL 8.90, CL 4.49 (3.71–4.49), CW 3.02, CapW 1.84, EGW 1.25, LL 0.69, LW 0.69, SL 2.12, SW 1.84. Legs: 2143 (I 21.00, II 21.17, III 15.67, IV 19.17); ratio tibia I length:CW = 1:0.56. Male palp: Fig. 15a,b. Cymbium wide with strongly developed retrolateral flange. Bulb wider than long; tegular lobe well developed, placed retrolaterally. Embolus origin retrolateral. Stem of T-shaped conductor prolaterally directed, posterior limb placed prolaterally; tegular window large, placed basally. RTA large, weakly dorsad, visible in ventral view; RVTA moderately broad, with blunt, beak-like apex turned toward upper side in ventral view.

Female (S45531). BL 7.76, CL 4.08 (3.88–4.49), CW 2.61, CapW 1.92, EGW 1.10, LL 0.63, LW 0.63, SL 1.87, SW 1.55. Northern colour pattern. Legs: 1423 (I 14.08, II 12.08, III 10.00, IV 12.42); ratio tibia I length:CW = 1:0.75. Epigynum: Fig. 15c–e. Scape wide, sides gently concave, most of scape placed behind level of epigastric groove; in side view distoventral scape curved inwards, not protuberant; epigynal fossae oriented diagonally. Internal genitalia: Fig. 15f.

Variation. Despite the fairly restricted distribution of this species, considerable variation was observed. Several specimens have been left unplaced until more comparative material is available. Male leg lengths vary from 1423, 1243 (legs 2 and 4 usually subequal) or less commonly 2143 (with 2 and 1 subequal). Females (S42274 and S42275) from west of Bones Knob near Atherton have epigynal scapes shapes that are intermediate with *T. angusta*; females (KS58379 and KS58380) from Danbulla SF show epigyna intermediate with *T. lambkinae*. A male specimen (S42292) from Massey Creek, E of Ravenshoe, differs from other males in the conductor shape, position of RTA and larger size. However, females (S42277 and S42278), from the same area, closely resemble the current species and are listed above.

Distribution. Ravenshoe area northwards to Cairns, northeastern Queensland.

Etymology. The specific name is in honour of Geoff Monteith, research entomologist and a collector of the type specimens.

Therlinya nasuta n.sp.

Figs. 16a–c, 17

Type material. AUSTRALIA: QUEENSLAND—HOLOTYPE: ♀ QM S42263, 7 km N of Mt Spurgeon (Camp 2), 16°22'S 145°13'E, 17–19 Oct. 1991, 1200–1250 m, Monteith, Janetzki, Cook & Roberts. PARATYPES: ♀ QM S42266, Black Mountain, 4.5 km N of Mt Spurgeon, 16°24'S 145°12'E, 17–18 Oct. 1991, 1250–1330 m, Monteith, Janetzki, Cook & Roberts; ♀ QM S42264, Carbine Tableland, Roots-Francis Ck divide, 16°25'S 145°15'E, 28 Nov. 1990, 1250 m, Monteith, Thompson, Cook, Sheridan & Janetzki (retained by AMS: KS76967).

Diagnosis. CL (3.33–3.58). Differs from all other species by its reduced scape with a prominent ventrally curved tip.

Male. Unknown.

Female (holotype). BL 7.25, CL 3.58 (3.33–3.58), CW 2.12, CapW 1.76, EGW 1.02, LL 0.55, LW 0.55, SL 1.59, SW 1.35. Northern colour pattern. Legs: 1243 (I 11.50, II 10.08, III 8.17, IV 10.00); ratio tibia I length:CW = 1:0.75. Epigynum: Fig. 16a,b. Scape reduced and narrow, ventral surface concave, ending in a ventrally directed knob-like prominence. Internal genitalia: S42264, Fig. 16c.

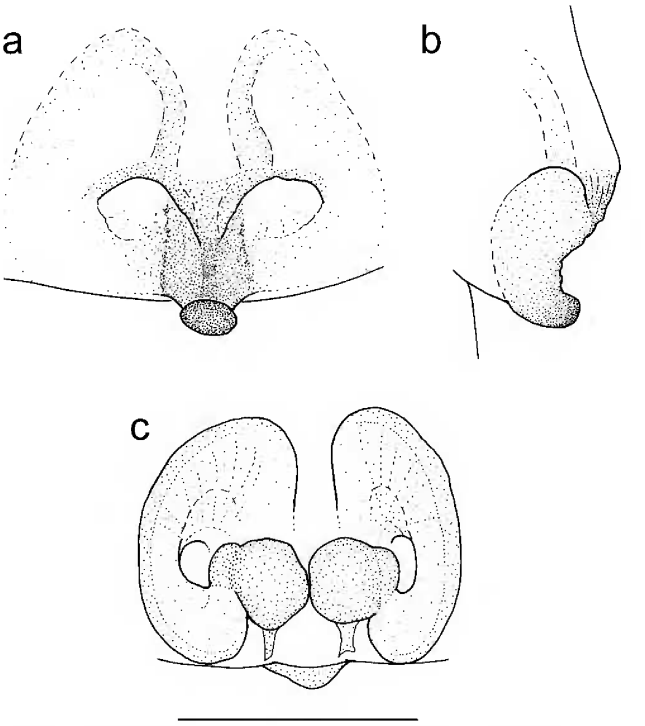

Figure 16. *Therlinya nasuta*. a–c, epigynum (holotype): a, ventral, b, lateral; c, dorsal—internal genitalia (S42264). Scale line 0.5 mm.

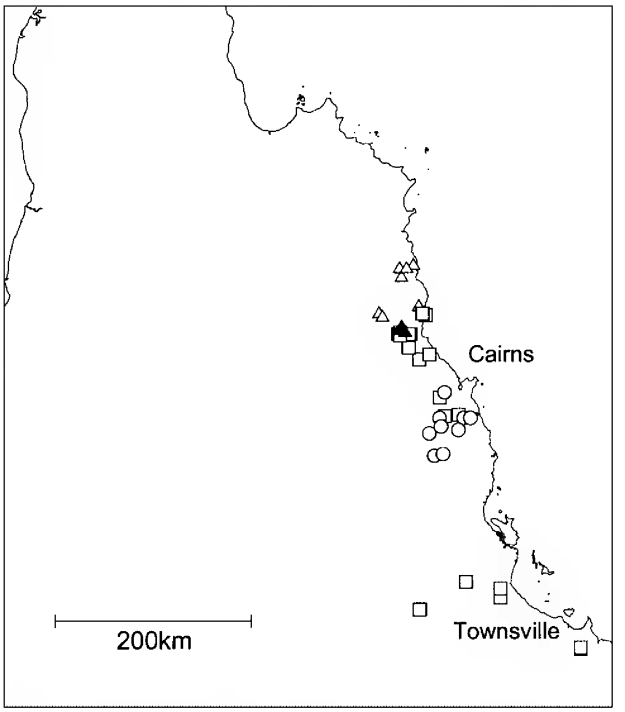

Figure 17. Distribution of *Therlinya* species: north Queensland. ○ *T. monteithi*, □ *T. lambkinae*, △ *T. angusta*, ▲ *T. nasuta*.

Distribution. Known only from the Mt Spurgeon region, west of Mossman, northeast Queensland.

Etymology. Named for the rather nose-like lateral appearance of the epigynal scape (L.).

ACKNOWLEDGMENTS. This project received funding assistance through the New South Wales Biodiversity Strategy: Enhancement of Taxonomic Research grants scheme. Illustrations of *T. lambkinae* were made by Ms Christine Lambkin of the Queensland Museum. We thank Mr P. Lawless for provision of loan material from the Queensland Museum collections.

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